Page E1 of E2

Section 1

Identification

Innovating Science[®] by Aldon Corporation

"cutting edge science for the classroom"

221 Rochester Street Avon, NY 14414-9409 (585) 226-6177

CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only.

Not for drug, food or household use.

Product ALUMINUM METAL POWDER	
Synonyms Aluminum ; Aluminum Metal ; Aluminum Powder	
Section 2 Hazards identification	
Signal word: DANGER Pictograms: GHS02 Target organs: Eyes, Skin, Respiratory system	 Precautionary statement: P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking. P223: Keep container tightly closed. P231+P232: Handle under inert gas. Protect from moisture. P240: Ground/bond container and receiving equipment. P241: Use explosion-proof electrical/ventilating/lighting equipment. P280: Wear protective gloves/protective clothing/eye protection/face protection. P335+P334: Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. P370+P378: In case of fire: Use DRY SAND ONLY to extinguish. P402+P404: Store in a dry place. Store in a closed container. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Combustible dust Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on ingredients					
Chemical Name		CAS #	%	EINECS		
Aluminum		7429-90-5	>99.5%	231-072-3		
Section 4	First aid measures					

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: DRY SAND ONLY!

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Molten metals produce fume, vapor and/or dust that may be toxic and/or a respiratory irritant. Metal reacts with oxidizing agents. Powders form explosive mixtures with air which may be ignited by a spark.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Use non-sparking tools. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources. Avoid exposure to water and moisture.

Section 8	Exposure controls / personal protection				
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)	
Exposure Limits.	Aluminum metal and insoluble compounds	TWA: 1(R) mg/m ³ (A4)	TWA: 15 mg/m ³ Total dust	TWA: 10 mg/m ³ Total dust	

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAirator

Section 9	Physical and chemical pr	operties					
Odor: No odor. Flammability (solid/gas): Flammable solid Auto Odor threshold: Data not available. Explosion limits: Lower: 40 mg/L Upper: Not available Deco VH: Data not available. Vapor pressure (mm Hg): Data not available Vapor density (Air = 1): Data not available Mole Relative density (Specific gravity): 2.7 Solubility(ies): Insoluble in water. Mole					Auto-igniti Decompos Viscosity: Molecular		: Data not available Ire: Data not available.
Section 10	Stability and reactivity	Stability and reactivity					
Incompatible mat	y: Stable bid: Excessive temperatures, hea terials: Strong oxidizers, mineral mposition products: Reacts with	it, sparks, open fla acids, strong alka	lies, halogenated hyd	s of ignition. rocarbons, and water.			
Section 11	Toxicological information	I					
Carcinogenity: E NTP: No compone IARC classified: G OSHA: No compo Reproductive tox STOT-single expe	enicity: Data not available Data not available ent of this product present at levels broup 1: Carcinogenic to humans (nent of this product present at leve icity: Data not available osure: Data not available	production).			-		SHA.
Aspiration hazard Potential health of Inhalation: It has Ingestion: May be Skin: Contact with Eyes: Contact with Signs and sympt not available. Exe	been reported that chronic expose a harmful if ingested. In skin may cause irritation. In eyes may cause irritation and co oms of exposure: To the best of ercise appropriate procedures to m	orneal abrasions. our knowledge th	e chemical, physical		erties have no	ot been thorough	nly investigated. Specific data
Aspiration hazard Potential health of Inhalation: It has Ingestion: May be Skin: Contact with Eyes: Contact with Signs and sympt not available. Exe	d: Data not available effects: been reported that chronic expose a harmful if ingested. In skin may cause irritaiton. In eyes may cause irritation and co oms of exposure: To the best of	orneal abrasions. our knowledge th	e chemical, physical		erties have no	ot been thorough	nly investigated. Specific data
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dent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook. Form 06/2015

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Identification

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CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300

For laboratory and industrial use only. Not for drug, food or household use.

Product AMMONIUM CHLORIDE	
Synonyms Ammonium Muriate ; Sal Ammoniac	
Section 2 Hazards identification	
Signal word: WARNING Pictograms: GHS07 Target organs: None known	 Precautionary statement: P264: Wash hands thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P280: Wear protective gloves/protective clothing/eye protection/face protection. P301+P330+P312: IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor if you feel unwell. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313: If eye irritation persists: Get medical attention. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composit	Composition / information on ingredients			
Chemical Name	CAS #	%	EINECS	
Ammonium chloride	12125-02-9	100%	235-186-4	
Section 4 First aid n	neasures			

INGESTION: HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Reacts violently with ammonium nitrate and potassium chlorate. This generates fire and explosion hazard. Vaporizes at temperatures of about 335°C (653°F) evolving fumes of nitrogen oxides, chloride ions and ammonia gas.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8	Exposure controls / personal protection				
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)	
Exposure Linits.	Ammonium chloride fume	TWA: 10 mg/m ³ STEL: 20 mg/m ³	None established	TWA: 10 mg/m ³ STEL: 20 mg/m ³	

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9 Physical and chemical pr	operties	
Appearance: Solid, white, crystalline powder Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: 520°C (968°F) Boiling point: Sublimes @ 340°C (644°F) Flash point: Data not available	Evaporation rate (=1): Data not available Flammability (solid/gas): Data not available. Explosion limits: as NH ₃ Lower: 15% Upper: 28% Vapor pressure (mm Hg): Data not available Vapor density (Air = 1): Data not available Relative density (Specific gravity): 1.527 Solubility(ies): Soluble in water.	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: NH ₄ Cl Molecular weight: 53.49
Continue 40 Ctability and repotivity		

Section 10 Stability and reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Somewhat hygroscopic. Has an acid reaction in aqueous solution, solid tends to lose ammonia and become more acid on exposure and in storage Incompatible materials: Oxidizing agents, acids, bases, lead and silver salts.

Hazardous decomposition products: Ammonia and hydrogen chloride.

Section 11 **Toxicological information**

Acute toxicity: Oral-rat LD50: 1,650 mg/kg

Skin corrosion/irritation: Skin-rabbit - Slight irritant.

Serious eye damage/irritation: Eyes-rabbit - irritant. Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation of dust or fume from heating may cause upper respiratory tract irritation, coughing, and choking sensation.

Ingestion: Ingestion of large doses cause nausea, vomiting, acidosis, irritation of the mouth, esophagus and gastric system. Ingestion may result in low grade toxicity. Skin: Contact with skin causes irritation and/or dermatitis.

Eves: Contact with eves causes irritation and/or visual impairment.

Signs and symptoms of exposure: See Potential health effects above. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: BP4550000

Coolegical information

Section 12	Ecological Informati	ion					
Toxicity to daphnia a Toxicity to algae: Du Persistence and deg Mobility in soil: No	mo clarki (fish, fresh wat and other aquatic inver inaliella tertiolecta (Algae gradability: No data ava data available ts: An environmental ha	tebrates: Artemia salir e) EC40 = 21.3 mg/L/9 ailable Bioaccum PBT and	na (Crustacea), EC50 = ; 0 minutes nulative potential: No c vPvB assessment: No	28 mg/L/24 hours lata available data available	or disposal.		
Section 13	Disposal consideration	tions					
							ontainer. State and/or local emical disposal agency.
Section 14	Transport informati	ion					
UN/NA number: Hazard class: No Exceptions: Not	t applicable	Shipping name: Packing group: 1 2016 ERG Guide #	Not applicable	Reportable Qu	antity: No	Ma	arine pollutant: No
Section 15	Regulatory informat	tion					
A chemical is considered	I to be listed if the CAS num	ber for the anhydrous forr	n is on the Inventory list.				
Compone	nt	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Ammonium chloride		Listed	5000 lbs (2270 kg)	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Section 16	Other information						

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Identification

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CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300

For laboratory and industrial use only. Not for drug, food or household use.

Product BENZOIC ACID	
Synonyms Benzenecarboxylic Acid	
Section 2 Hazards identification	
Signal word: WARNING Pictograms: GHS07 Target organs: None known	 Precautionary statement: P264: Wash hands thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P280: Wear protective gloves/protective clothing/eye protection/face protection. P301+P330+P312: IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor if you feel unwell. P302+P352: IF ON SKIN: Wash with plenty of water and soap. P332+P313: If skin irritation occurs: Get medical attention. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313: If eye irritation persists: Get medical attention. P362+P364: Take off contaminated clothing and wash it before reuse. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on ingredients				
Chemical Name		CAS #	%	EINECS	
Benzoic acid		65-85-0	100%	200-618-2	
Section 4	First aid measures				

INGESTION: HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts or vapors. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Linits.	Benzoic acid	Not established	Not established	Not established		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHA-

approved respirator.	eded in normal laborator	y nandling at room tem	peratures. If dusty	conditions prev	all, work in tume	e nood of wear a NIOSH/MSHA-
Section 9 Physical and chem	ical properties					
Appearance: Solid, white crystals. Odor: Odor of benzaldehyde or benzoin. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: 121°C (249°F) Boiling point: 249°C (480°F) Flash point: 121-131°C (249-267°F) CC	Flammability (Explosion limi Vapor pressur Vapor density Relative densi	ate (= 1): Data not av solid/gas): Data not av ts: Lower / Upper: D e (mm Hg): 1 mm @ 9 (Air = 1): 4.21 ty (Specific gravity): / : Slightly soluble in wat	vailable. ata not available 96° (sublimes) 1.321	Auto-ignitic Decomposi Viscosity: Molecular f		: 573°C (1065°F) re: Data not available. _l e.
Section 10 Stability and reactive	/ity					
Chemical stability: Stable Conditions to avoid: Excessive temperature		ous polymerization: V	Vill not occur.			
Incompatible materials: Strong oxidizing ag	gents, strong bases, alka	lies.				
Hazardous decomposition products: Toxic	c vapors and gases inclu	iding phenol, benzene a	and carbon monoxi	de.		
Section 11 Toxicological inform	nation					
Skin corrosion/irritation: Skin-rabbit - Sligh Serious eye damage/irritation: Eyes-rabbit Respiratory or skin sensitization: Data no Germ cell mutagenicity: Data not available Carcinogenity: Data not available NTP: No component of this product present a IARC: No component of this product present oSHA: No component of this product present OSHA: No component of this product present Reproductive toxicity: Data not available STOT-single exposure: Data not available STOT-repeated exposure: Data not available STOT-repeated exposure: Data not available Potential health effects: Inhalation: Inhalation may cause cough and Ingestion: Ingestion causes abdominal pain, Skin: Contact with skin causes irritation with Eyes: Contact with eyes causes severe irrita Signs and symptoms of exposure: See Per Additional information: RTECS #: DG087	t - Severe irritant t available at levels greater than or of at levels greater than or t at levels greater than o le sore throat. nausea and vomiting. redness, itching, and bu tion with redness and pa otential health effects ab	equal to 0.1% is identii r equal to 0.1% is ident rning sensation. ain.	ïed as probable, pc	ossible or confiri en or potential c	med human carc arcinogen by OS	0,
Section 12 Ecological informat	ion					
Toxicity to fish: Carassius auratus (fish, free Toxicity to daphnia and other aquatic inve Toxicity to algae: Anabaena cylindrica (Alga Persistence and degradability: No data av Mobility in soil: No data available Other adverse effects: An environmental ha Section 13 Disposal considera These disposal guidelines are intended f regulations may be different. Dispose of Section 14 Transport informat	rtebrates: Daphnia mag e), EC50 = 60 mg/L/3 hd ailable Bioaccum PBT and v azard cannot be exclude itions or the disposal of cata in accordance with al	ina (Crustacea), EC50 burs ulative potential: No of PvB assessment: No d in the event of unprof	data available data available essional handling o nly. Federal regul	or disposal. lations may ap	oply to empty c a licensed che	ontainer. State and/or local mical disposal agency.
· · · · · · · · · · · · · · · · · · ·		let Degulated				
UN/NA number: Not applicable Hazard class: Not applicable Exceptions: Not applicable	Shipping name: 1 Packing group: N 2016 ERG Guide #	lot applicable	Reportable Qu	antity: Yes	Ma	arine pollutant: No
Section 15 Regulatory informa		is an the Incontant Bat				
A chemical is considered to be listed if the CAS nun Component	nber for the anhydrous form TSCA	certer (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Benzoic acid	Listed	5000 lbs (2270 kg)	Not listed	Listed	Not listed	This product does not contain
	Listed	2000 ISC (2210 IQ)		Liotou		any chemicals known to the State of California to cause cancer or reproductive toxicity.
Section 16 Other information						

Page E1 of E2

Section 1 Identification	
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221 Rochester Street Avon, NY 14414-9409 (585) 226-6177

CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300

For laboratory and industrial use only. Not for drug, food or household use.

Product CALCIUM METAL	
Synonyms Calcium	
Section 2 Hazards identification	
Signal word: DANGER Pictograms: GHS02 Target organs: None known GHS Classification: Water reactive (Category 2) GHS Label information: Hazard statement: H261: In contact with water releases flammable gas.	Precautionary statement: P223: Do not allow contact with water. P231+P232: Handle under inert gas. Protect from moisture. P280: Wear protective gloves/protective clothing/eye protection/face protection. P335+P334: Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. P370+P378: In case of fire: Use Class D extinguisher or smother with dry sand, dry clay, dry ground limestone or graphite to extinguish. P402+P404: Store in a dry place. Store in a closed container. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Co	Composition / information on ingredients					
Chemical Name		CAS #	%	EINECS		
Calcium		7440-70-2	98%	231-179-5		
Section 4 Fi	rst aid measures					

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: DO NOT use water, foam or halogenated extinguishing agents or CO₂. Use Class D extinguisher or smother with dry sand, dry clay, dry ground limestone or graphite to extinguish.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Calcium reacts with water and acids to release hydrogen. Heat of reaction may ignite evolved hydrogen. Avoid direct viewing of calcium fires as eye injury may result, use fire glasses. Powders form explosive mixtures with air which may be ignited by a spark.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources. Avoid exposure to water and moisture.

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Limits.	Calcium	Not established	Not established	Not established		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Appearance: Solic Odor: No odor.	Physical and chemical	properties					
Odor threshold: D pH: Data not availa	l, silvery-gray metal. Data not available. able. point: 842°C (1542°F) 0°C (4755°F)	Evaporation ra Flammability (Explosion limi Vapor pressur Vapor density Relative densi	te (= 1): Data not a solid/gas): Data not a ts: Lower / Upper: D e (mm Hg): 10 mm H (Air = 1): Data not av ty (Specific gravity): Reacts violently with	available. Data not available g @ 983°C ailable 1.54	Auto-igniti Decompos Viscosity: Molecular	•	: Data not available re: Data not available.
Section 10	Stability and reactivity						
Chemical stability Conditions to avo	: Stable id: Excessive temperatures, I		us polymerization: Name and other sources		ontact with air	and water. Avoid	d dispersion of dust in air.
Incompatible mate	erials: Acids, halogens, alkali	, metals, hydroxides,	carbonates. Calcium	will react with water	and acids to r	elease hydrogen	
Hazardous decom	position products: Hydroge	n, calcium hydroxide	, calcium oxide.				
Section 11	Toxicological information	ion					
Serious eye dama Respiratory or ski Germ cell mutage Carcinogenity: Di NTP: No component JARC: No component OSHA: No component OSHA: No component STOT-single expo STOT-repeated ext Aspiration hazard Potential health et Inhalation: May be Ingestion: May be harm Eyes: May cause of	itation: Data not available ge/irritation: Data not availa n sensitization: Data not availa n sensitization: Data not available ata not available nt of this product present at levent of this present of th	ailable vels greater than or e evels greater than or levels greater than o e respiratory tract irrit May cause skin irritat extremely destructiv e appropriate proced	equal to 0.1% is identi equal to 0.1% is iden ation. e to tissue of the mucc	fied as probable, pos tified as a carcinoger bus membranes and	ssible or confir n or potential o	med human carc	SHA.
shortness of breath	ation: RTECS #: EV804000 Ecological information						
shortness of breath Additional informa Section 12 Foxicity to fish: N Foxicity to daphni Foxicity to algae: I Persistence and d Mobility in soil: N	Ecological information o data available a and other aquatic inverteb No data available egradability: No data availab	orates: No data avail Die Bioaccumu PBT and vi	Ilative potential: No PvB assessment: No	o data available	disposal.		
shortness of breath Additional informa Section 12 Toxicity to fish: N Toxicity to daphni Toxicity to algae: I Persistence and d Mobility in soil: N Other adverse effe Section 13	Ecological information o data available a and other aquatic inverteb No data available egradability: No data available o data available ects: An environmental hazar Disposal consideration	orates: No data avail ble Bioaccum PBT and vi d cannot be excluded ns	Ilative potential: No PvB assessment: No I in the event of unpro	o data available fessional handling or	·		
shortness of breath Additional informa Section 12 Foxicity to fish: N Foxicity to daphni Foxicity to algae: I Persistence and d Mobility in soil: N Other adverse effe Section 13 Fhese disposal g	Ecological information o data available a and other aquatic inverteb No data available egradability: No data availat o data available ects: An environmental hazar Disposal consideration uidelines are intended for th	orates: No data avail ble Bioaccum PBT and vi d cannot be excluded ns ne disposal of cata	Ilative potential: No PvB assessment: No I in the event of unpro log-size quantities o	o data available fessional handling or nly. Federal regula	ations may a		container. State and/or loc
shortness of breath Additional informa Section 12 Toxicity to fish: N Toxicity to daphni Toxicity to algae: I Persistence and d Mobility in soil: N Other adverse effe Section 13 These disposal gregulations may b	Ecological information o data available a and other aquatic inverteb No data available egradability: No data availat o data available ects: An environmental hazar Disposal consideration uidelines are intended for the o different. Dispose of in a	orates: No data avail Die Bioaccum PBT and vi d cannot be excluded ns ne disposal of cata accordance with all	Ilative potential: No PvB assessment: No I in the event of unpro log-size quantities o	o data available fessional handling or nly. Federal regula	ations may a		container. State and/or loc
shortness of breath Additional informa Section 12 Toxicity to fish: N Toxicity to daphni Toxicity to algae: I Persistence and d Mobility in soil: N Other adverse effe Section 13 These disposal gregulations may b Section 14	Ecological information o data available a and other aquatic inverteb No data available egradability: No data availat o data available ects: An environmental hazar Disposal consideration uidelines are intended for the e different. Dispose of in a Transport information	orates: No data avail ble Bioaccum PBT and vi d cannot be excluded ns ne disposal of cata accordance with all	Ilative potential: No PvB assessment: No d in the event of unpro log-size quantities o local, state and fed	o data available fessional handling or nly. Federal regula	ations may a		container. State and/or loc
shortness of breath Additional informa Section 12 Toxicity to fish: N Toxicity to daphni Toxicity to algae: I Persistence and d Mobility in soil: N Other adverse effe Section 13 These disposal gregulations may b Section 14 UN/NA number: Hazard class: 4	Ecological information o data available a and other aquatic inverteb No data available egradability: No data available o data available egradability: No data available o data available o data available ects: An environmental hazar Disposal consideration uidelines are intended for the o different. Dispose of in a Transport information UN1401 Shippin .3 Packin	orates: No data avail Dele Bioaccumo PBT and vi d cannot be excluded ns ne disposal of cata accordance with all ng name: Calciu g group: II	Ilative potential: No PvB assessment: No d in the event of unpro log-size quantities o local, state and fed m Reporta	o data available fessional handling or nly. Federal regula	ations may a contract with	à licensed che	container. State and/or loc
shortness of breath Additional informa Section 12 Toxicity to fish: N Toxicity to daphni Toxicity to algae: I Persistence and d Mobility in soil: N Other adverse effe Section 13 These disposal g regulations may b Section 14 JN/NA number: Hazard class: 4 Exceptions: Lin	Ecological information o data available a and other aquatic inverteb No data available egradability: No data availat o data available ects: An environmental hazar Disposal consideration uidelines are intended for the e different. Dispose of in a Transport information UN1401 Shippin	orates: No data avail PBT and vi d cannot be excluded ns ne disposal of cata accordance with all ng name: Calciu g group: II ess than (0.5 Kg)	Ilative potential: No PvB assessment: No d in the event of unpro log-size quantities o local, state and fed m Reporta	o data available fessional handling or nly. Federal regula eral regulations or ble Quantity: No	ations may a contract with	à licensed che	container. State and/or loc mical disposal agency.
shortness of breath Additional informa Section 12 Toxicity to fish: N Toxicity to daphni Toxicity to algae: I Persistence and d Mobility in soil: N Dther adverse effe Section 13 These disposal gregulations may b Section 14 JN/NA number: Hazard class: 4 Exceptions: Lin Section 15	Ecological information o data available a and other aquatic invertet No data available egradability: No data available o data available egradability: No data available o data available o data available ects: An environmental hazar Disposal consideration uidelines are intended for the be different. Dispose of in a Transport information UN1401 Shippin .3 Packin mited quantity equal to or l	orates: No data avail PBT and vi d cannot be excluded ns ne disposal of cata accordance with all ng name: Calciu g group: II ess than (0.5 Kg) n	Ilative potential: No PvB assessment: No d in the event of unpro log-size quantities o local, state and fed m Reporta 1.1 lb. 2016 ER	o data available fessional handling or nly. Federal regula eral regulations or ble Quantity: No	ations may a contract with	à licensed che	container. State and/or loc mical disposal agency.
shortness of breath Additional informs Section 12 Foxicity to fish: N Foxicity to daphni Foxicity to algae: I Persistence and d Mobility in soil: N Other adverse effe Section 13 These disposal gregulations may b Section 14 UN/NA number: Hazard class: 4 Exceptions: Lin Section 15	Ecological information o data available a and other aquatic inverteb No data available egradability: No data available o data available ects: An environmental hazar Disposal consideration uidelines are intended for th be different. Dispose of in a Transport information UN1401 Shippin .3 Packin mited quantity equal to or I Regulatory information	orates: No data avail PBT and vi d cannot be excluded ns ne disposal of cata accordance with all ng name: Calciu g group: II ess than (0.5 Kg) n	Ilative potential: No PvB assessment: No d in the event of unpro log-size quantities o local, state and fed m Reporta 1.1 lb. 2016 ER	o data available fessional handling or nly. Federal regula eral regulations or ble Quantity: No	ations may a contract with	à licensed che	container. State and/or loc mical disposal agency.
shortness of breath Additional informs Section 12 Toxicity to fish: N Toxicity to daphni Toxicity to algae: I Persistence and d Mobility in soil: N Other adverse effe Section 13 These disposal gregulations may b Section 14 UN/NA number: Hazard class: 4 Exceptions: Lin Section 15 A chemical is consider	Ecological information o data available a and other aquatic inverteb No data available egradability: No data available o data available ects: An environmental hazar Disposal consideration uidelines are intended for th be different. Dispose of in a Transport information UN1401 Shippin .3 Packin mited quantity equal to or I Regulatory information	orates: No data avail Dele Bioaccume PBT and vi d cannot be excluded ns ne disposal of cata accordance with all ng name: Calciu g group: II ess than (0.5 Kg) n for the anhydrous form	Ilative potential: No PvB assessment: No d in the event of unpro log-size quantities o local, state and fed m Reporta 1.1 lb. 2016 ER is on the Inventory list.	o data available fessional handling or nly. Federal regula eral regulations or ble Quantity: No G Guide # 138	ations may a contract with	a licensed che Ma	container. State and/or loc emical disposal agency. arine pollutant: No

dent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook. Form 06/2015

GENERAL STORAGE CODE GREEN

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Product

Identification

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CALCIUM CARBONATE

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For laboratory and industrial use only. Not for drug, food or household use.

Synonyms Precipated Chalk / Natural Chalk / Powdered Chalk	
Section 2 Hazards identification	
Signal word: WARNING Pictograms: GHS08 Target organs: None known	Precautionary statement: P260: Do not breathe dust. P314: Get medical advice/attention if you feel unwell. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.
GHS Classification: *STOT-RE (Category 2)	
GHS Label information : Hazard statement: *H373: May cause damage to organs (<i>lungs</i>) through prolonged or repeated exposure (<i>inhalation</i>).	
* Respirable dust particles containing crystalline silica may be generated by crushing. There are no known hazards associated with this material when used as recommended.	

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / information on	ingredients			
Chemical Name	CAS #	%	EINECS	
Ground Limestone (Calcium carbonate)	1317-65-3	>99.5%	215-279-6	
Water	7732-18-5	< 0.5%	231-791-2	
May contain: Quartz	14808-60-7	0.1-1.0%	238-878-4	

Section 4 First aid measures

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: PROLONGED INHALATION OF PARTICULATE DUST MAY BE HARMFUL. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE ABRASIONS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Product will not burn or support fire. Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: Limestone reacts with acids to release carbon dioxide.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

 $\label{eq:conditions} \mbox{ for Safe Storage: Store in a cool, dry, well-ventilated area.}$

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Linits.	Particles not otherwise classified	TWA: 5 mg/m ³ respirable fraction	None established	None established		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

approved respirator.							
Section 9	Physical and chemica	al properties					
Appearance: Solid. Odor: No odor. Odor threshold: Da pH: Data not availal Melting / Freezing p Boiling point: Data Flash point: Not fla	ata not available. ble. point: Data not available not available	Flammability (s Explosion limit Vapor pressure Vapor density Relative densit	te (= 1): Not applic solid/gas): Data not ts: Lower / Upper: I e (mm Hg): Data not (Air = 1): Data not av y (Specific gravity): 0.001% @ 0°C in wa	available. Not flammable available /ailable 2.71	Auto-ignitio Decomposi Viscosity: Molecular f		: Not applicable re: 825°C (1517°F) le.
Section 10	Stability and reactivity	y					
Chemical stability: Conditions to avoid	Stable d: Avoid contact with acids.		us polymerization:	Will not occur.			
Incompatible mate	rials: Calcium carbonate ig	nites on contact with f	luorine. It is incompa	tible with acids, alur	n, ammonium sa	alts, and mercur	y/hydrogen mixtures.
Hazardous decomp	oosition products: Carbor	n dioxide.					
Section 11	Toxicological informa	tion					
Respiratory or skir Germ cell mutagen Carcinogenity: Da NTP: Known to be a IARC classified: Grc OSHA: No compone Ca Prop 65: A WAR Reproductive toxic STOT-single expos STOT-repeated exp Aspiration hazard: Potential health eff Inhalation: Dust ma Ingestion: Ingestion Skin: May cause ab Eyes: May cause m Signs and sympton changes and miliary Additional informa	a human carcinogen (respira oup 1: Carcinogenic to huma nut of this product present at RNING! This product can ex ity: Data not available bosure: Inhalation - May ca Data not available fects: y cause congestion and irrit may cause gastrointestinal prasions. illd to severe irritation by ab ms of exposure: Prolonge r nodules in the lungs, a dry tion: RTECS #: FF933500	vailable able). [crystalline silica] ans. [crystalline silica] levels greater than or pose you to a chemica ause damage to organ tation in nasal and res i irritation and blockag rasion with dust or chi d inhalation of particul cough, shortness of b 00	equal to 0.1% is iden II, crystalline silica, wl s through prolonged c piratory passages. e. ps. ate dust, may result ir reath, emphysema, d	hich is known to the or repeated exposure n silicosis, a disablin ecreased chest exp	State of Californ e. [crystalline sil g pulmonary fib ansion, and incr	nia to cause can ica]* rosis characteriz eased susceptib	cer. ted by fibrotic ility to tuberculosis.
* Respirable dust pa	articles containing crystalline Ecological informatio		ted by crushing. The	re are no known haz	ards associated	d with this materi	al when used as recommended.
Toxicity to fish: No Toxicity to daphnia Toxicity to algae: N Persistence and de Mobility in soil: No	o data available a and other aquatic inverte lo data available gradability: No data availa	ebrates: No data availa able Bioaccumu PBT and vi	Ilative potential: No PvB assessment: N	o data available	or disposal.		
Section 13	Disposal consideration	ons					
regulations may be	e different. Dispose of in	accordance with all	og-size quantities of local, state and fec	only. Federal regu leral regulations o	llations may ap r contract with	oply to empty o a licensed che	ontainer. State and/or local mical disposal agency.
Section 14	Transport informatio						
UN/NA number: Hazard class: N Exceptions: No	ot applicable	Shipping name: N Packing group: N 2016 ERG Guide #	ot applicable	Reportable Qu	i antity : No	Ма	arine pollutant: No
Section 15	Regulatory information	on					
	ed to be listed if the CAS number	,	,				
Compon	ent	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Calcium carbonate		Listed	Not listed	Not listed	Not listed	Listed	A WARNING -Cancer - www.P65Warnings.ca.gov.
Section 16	Other information						
The information contair dent determinations of	ned herein is furnished without suitability and completeness of ency for Research on Cancer, C	information from all sour	ces to assure proper use	of these materials and	d the safety and h	ealth of employees	ered by them and must make indeper s. NTP: National Toxicology Program osure, RE: Repeated Exposure,

Form 06/2015

GENERAL STORAGE CODE GREEN

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Identification

Page E1 of E2

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221 Rochester Street Avon, NY 14414-9409 (585) 226-6177 CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300

For laboratory and industrial use only. Not for drug, food or household use.

Product	COPPER METAL	
Synonyms	Copper Metal Powder / Copper Powder	
Section 2	Hazards identification	
to the Glob Chemicals. Signal word Pictograms Target orga GHS Classi GHS Label	ance or mixture has not been classified as hazardous according ally Harmonized System (GHS) of Classification and Labeling of d: Not classified s: Not classified ins: Liver, Kidneys ification: Not classified information: Hazard statement(s): Not classified ary statement(s): Not classified	Supplemental information: Do not breathe dust or fume. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on	ingredients			
Chemical Name		CAS #	%	EINECS	
Copper metal		7440-50-8	100%	231-159-6	
Section 4	First aid measures				

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: HARMFUL IF INHALED AS FUME. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use triclass, dry chemical fire extinguisher. Do NOT use water on fire where molten metal is present.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Molten metals produce fume, vapor and/or dust that may be toxic and/or a respiratory irritant. Metal reacts with oxidizing agents.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Read label on container before using. Do not wear contact lenses when working with chemicals. Keep container tightly closed. Keep out of reach of children. Use with adequate ventilation. Wash thoroughly after handling

Handling: Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid ingestion. Do not inhale fumes from molten metals. Wash thoroughly after handling. Remove and wash clothing before reuse.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Limits:	Copper, dusts and mists, as Cu	TWA: 1 mg/m ³	TWA: 1 mg/m ³	TWA: 1 mg/m ³		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9 Physical and chemical properties Annearance: Solid Red-brown Justrous metal Evaporation rate (= 1): Not applicable Partition coefficient: Data not available

repouration cond. Red brown, addread motal.		Turtition coomorona. Bata not available
Turns green on exposure to moist air.	Flammability (solid/gas): Not applicable	Auto-ignition temperature: Not applicable
Odor: No odor.	Explosion limits: Lower / Upper: Not applicable	Decomposition temperature: Data not available.
Odor threshold: Data not available.	Vapor pressure (mm Hg): 1 mm @ 1628°C	Viscosity: Data not available.
pH: Data not available.	Vapor density (Air = 1): Data not available	Molecular formula: Cu
Melting / Freezing point: 1083°C (1981°F)	Relative density (Specific gravity): 8.92 @ 20°C	Molecular weight: 63.55
Boiling point: 2595°C (4703°F)	Solubility(ies): Insoluble	
Flash point: Not applicable		
Section 10 Stability and reactivity		

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures and heat. Incompatibilities with other materials: Strong oxidizers may cause a violent reaction.

Hazardous decomposition products: At temperatures above melting point, toxic fumes or vapors may be emitted.

Section 11 **Toxicological information**

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available Respiratory or skin sensitization: Data not available

Germ cell mutagenicity: Data not available

Carcinogenity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation of dust or fumes may irritate respiratory system. Symptoms include cough, headache, sore throat, shortness of breath.

Ingestion: May be harmful if swallowed. Symptoms include abdominal pain, nausea, vomiting.

Skin: May cause irritation and redness.

Eyes: Contact with eyes may cause redness and pain.

Signs and symptoms of exposure: Over-heating of alloy can produce metal fumes and oxides. Fumes of copper may cause metal fume fever with flu-like symptoms and skin and hair discolorization. Copper dust and fume cause irritation of the upper respiratory tract, metallic taste in the mouth, and nausea. Chronic poisoning results in Wilson's disease characterized by a hepatic cirrhosis, brain damage, denyelination, renal disease and copper depostion in the cornea. Additional information: RTECS #: GL5325000

Section 12 **Ecological information**

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available Bioaccumulative potential: No data available Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 **Disposal considerations**

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency. Section 14 Transport information

•	t applicable applicable	Packing group: N 2016 ERG Guide #		Reportable Qu	antity: No	Ма	rine pollutant: No
Section 15	Regulatory information	tion					
A chemical is considered	to be listed if the CAS num	ber for the anhydrous forn	n is on the Inventory list.				
Componer	nt	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Copper		Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Section 16	Other information						
dent determinations of su	itability and completeness	of information from all sou	rces to assure proper use	of these materials and	the safety and h	ealth of employees	ered by them and must make indepen- . NTP: National Toxicology Program, psure, RE: Repeated Exposure,

ERG: Emergency Response Guidebook

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Identification

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For laboratory and industrial use only. Not for drug, food or household use.

Product COPPER(II) SULFATE, ANHYDROUS	
Synonyms Cupric Sulfate, Anhydrous	
Section 2 Hazards identification	
Signal word: WARNING Pictograms: GHS07 / GHS09 Target organs: Liver, Kidneys, Lungs, Spleen.	 Precautionary statement: P264: Wash hands thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection. P301+P330+P312: IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor if you feel unwell. P302+P352: IF ON SKIN: Wash with plenty of water and soap. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P332+P313: If skin irritation occurs: Get medical attention. P362+P364: Take off contaminated clothing and wash it before reuse. P391: Collect spillage. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.
Hazards not otherwise classified:	

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on ingredients				
Chemical Name		CAS #	%	EINECS	
Cupric sulfate		7758-98-7	>99%	231-847-6	
Section 4	First aid measures				

INGESTION: HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SEVERE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Linits.	Copper, dusts and mists, as Cu	TWA: 1 mg/m ³	TWA: 1 mg/m ³	TWA: 1 mg/m ³		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9 Physical and chemical pro	operties	
Appearance: Solid, off-white powder Odor: Odorless Odor threshold: Data not available pH: Data not available Melting / Freezing point: 340°C (644°F) Boiling point: Decomposes Flash point: Non-flammable	Evaporation rate (=1): Not applicable Flammability (solid/gas): Not applicable Explosion limits: Lower / Upper: Not applicable Vapor pressure (mm Hg): Data not available Vapor density (Air = 1): Data not available Relative density (Specific gravity): 2.28 @ 15.6°C Solubility(ies): Appreciable in water	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available Viscosity: Data not available. Molecular formula: CuSO ₄ Molecular weight: 159.60
Section 10 Stability and reactivity		

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Hygroscopic material. Stable when kept dry, under normal temperature and pressure. Avoid high temperatures, exposure to air and incompatible materials

Incompatible materials: Reducing agents, acetylene or nitromethane, magnesium, strong bases, alkalines, phosphates, hydrazine, zirconium. Can corrode aluminum, steel and iron

Hazardous decomposition products: Oxides of sulfur and copper fumes.

Section 11 **Toxicological information**

Acute toxicity: Oral-rat LD50: 300 mg/kg Skin corrosion/irritation: Data not available Serious eye damage/irritation: Data not available Respiratory or skin sensitization: Data not available Germ cell mutagenicity: Data not available Carcinogenity: Data not available NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. Reproductive toxicity: Data not available STOT-single exposure: Data not available STOT-repeated exposure: Data not available Aspiration hazard: Data not available Potential health effects: Inhalation: May cause irritation to the mucous membranes and upper respiratory tract. Ingestion: Ingestion can cause irritation to the digestive tract and abdominal pain. Skin: Contact with skin causes slight irritation. Excessive exposure may cause allergic dermatitis. May cause irritation or burns on wet skin. Eyes: Can cause severe irritation and may result in irreversible eye damage. Signs and symptoms of exposure: Note to physician: Probable mucosal damage may contradict the use of gastric lavage. Measures against circulatory shock, respiratory depression and convulsions may be needed. Wilson's disease can be aggravated by excessive exposure. Symptoms include nausea, vomiting, gastrointestinal pain, diarrhea, dizziness, jaundice, and general debility. Additional information: RTECS #: GL8800000 Section 12 Ecological information Toxicity to fish: Salmo gairdneri (fish, estuary, fresh water), LC50 = < 0.75-0.84 mg/L Toxicity to daphnia and other aquatic invertebrates: No data available Toxicity to algae: No data available Bioaccumulative potential: No data available Persistence and degradability: No data available Mobility in soil: No data available PBT and vPvB assessment: No data available Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Section 13 Disposal considerations These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency. Transport information Section 14 UN/NA number: UN3077 Shipping name: Environmentally hazardous substances, solid, n.o.s., (Cupric sulfate) Hazard class: 9 Packing group: III **Reportable Quantity:** 10 lbs (4.54 kg) Marine pollutant: Yes 2016 ERG Guide # 171 Exceptions: Non regulated equal to or less than 4.539 Kg; Reportable quantity equal to or more than 4.54 Kg Section 15 **Regulatory information** A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list. DSL NDSL Component TSCA CERLCA (RQ) RCRA code CA Prop 65 This product does not contain Cupric sulfate Listed 10 lbs (4.54 kg) Not listed Not listed Not listed any chemicals known to the State of California to cause cancer or reproductive toxicity. Section 16 Other information

Section 1	l
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Identification

Page E1 of E2
CHEMTREC 24 Hour Emergency

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Product COPPER(II) SULFATE, PENTAHYDRATE	
Synonyms Cupric Sulfate, 5-Hydrate	
Section 2 Hazards identification	
Signal word: WARNING Pictograms: GHS07 / GHS09 Target organs: Liver, Kidneys, Lungs, Spleen. Image: Splead Structure Image: Splead Structure GHS Classification: Acute toxicity-oral (Category 4) Skin irritation (Category 2) Eye irritation (Category 2A) Aquatic acute toxicity (Category 1) Aquatic acute toxicity (Category 1) GHS Label information: Hazard statement: H302: Harmful if swallowed. H315: Causes skin irritation. H319: Causes serious eye irritation. H410: Very toxic to aquatic life with long lasting effects.	 Precautionary statement: P264: Wash hands thoroughly after handling. P270: Do not eat, drink or smoke when using this product. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection. P301+P330+P312: IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor if you feel unwell. P302+P352: IF ON SKIN: Wash with plenty of water and soap. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes Remove contact lenses, if present and easy to do. Continue rinsing. P332+P313: If skin irritation occurs: Get medical attention. P337+P313: If eye irritation persists: Get medical attention. P362+P364: Take off contaminated clothing and wash it before reuse. P391: Collect spillage. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on ingredients					
Chemical Name		CAS #	%	EINECS		
Cupric sulfate		7758-99-8	>99%	231-847-6 (anhydrous)		
Section 4	First aid measures					

INGESTION: HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SEVERE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8	Exposure controls / personal protection				
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)	
Exposure Linits.	Copper, dusts and mists, as Cu	TWA: 1 mg/m ³	TWA: 1 mg/m ³	TWA: 1 mg/m ³	

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9 Physical and chemical pr	operties	
Appearance: Blue, crystalline solid Odor: Odorless Odor threshold: Data not available pH: 3.7-4.2 (10% solution) Melting / Freezing point: 150°C (302°F) Boiling point: Decomposes Flash point: Non-flammable	Evaporation rate (=1): Not applicable Flammability (solid/gas): Not applicable Explosion limits: Lower / Upper: Not applicable Vapor pressure (mm Hg): 20 torr @ 22.5°C Vapor density (Air = 1): Data not available Relative density (Specific gravity): 2.284 Solubility(ies): 31.6 g/100 ml water @ 0°C	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: 560°C (1040°F) Viscosity: Data not available. Molecular formula: CuSO ₄ •5H ₂ O Molecular weight: 249.68
Section 10 Stability and reactivity		

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Hygroscopic material. Stable when kept dry, under normal temperature and pressure. Avoid high temperatures, exposure to air and incompatible materials.

Incompatible materials: Reducing agents, acetylene or nitromethane, magnesium, strong bases, alkalines, phosphates, hydrazine, zirconium. Can corrode aluminum, steel and iron.

Hazardous decomposition products: Oxides of sulfur and copper fumes.

Section 11 Toxicological informatio

Section 11	Toxicological information						
Skin corrosion/irr Serious eye dama Respiratory or ski Germ cell mutage Carcinogenity: Di NTP: No componer IARC: No componer OSHA: No comp	nt of this product present at levels green ent of this product present at levels green city: Data not available sure: Data not available posure: Data not available : Data not available ffects: use irritation to the mucous membrar n can cause irritation to the digestive skin causes slight irritation. Excessiv severe irritation and may result in irre to sof exposure: Note to physician nvulsions may be needed. Wilson's of , and general debility. attion: RTECS #: GL8900000	eater than or e eater than or reater than or tract and upper tract and abd e exposure m versible eye d Probable m	equal to 0.1% is identifi equal to 0.1% is identifi r equal to 0.1% is identi r espiratory tract. iominal pain. lay cause allergic derm amage. ucosal damage may cc	fied as probable, po ified as a carcinogo natitis. May cause ontradict the use of	ossible or confirr en or potential c irritation or burns gastric lavage.	med human carc arcinogen by OS s on wet skin. Measures agair	SHA. st circulatory shock, respiratory
Section 12	Ecological information						
Toxicity to daphni Toxicity to algae: I Persistence and d Mobility in soil: N	egradability: No data available	No data avail Bioaccum PBT and v	able ulative potential: No o PvB assessment: No	data available data available			
Section 13	Disposal considerations						
These disposal gregulations may b	uidelines are intended for the dispose of in accord	oosal of cata ance with all	log-size quantities or local, state and fede	nly. Federal regueral regueral regulations o	llations may ap r contract with	oply to empty c a licensed che	ontainer. State and/or local emical disposal agency.
Section 14	Transport information						
UN/NA number: Hazard class: 9 Exceptions: No		u p: III	•	ole Quantity: 10) lbs (4.54 kg)	Ma	arine pollutant: Yes 16 ERG Guide # 171
Section 15	Regulatory information						
	ed to be listed if the CAS number for the						
Compor	nent	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Cupric sulfate		Listed	10 lbs (4.54 kg)	Not listed	Not listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Section 16	Other information						
The information conta	ined herein is furnished without warranty	of any kind. Em	plovers should use this in	formation only as a s	upplement to othe	r information gathe	ered by them and must make indepen-

GENERAL STORAGE CODE GREEN

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Section	1

Identification

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Product	DEIONIZED WATER	
Synonyms	Hydrogen Oxide / Distilled Water	
Section 2	Hazards identification	
This substa Harmonized Signal word Pictograms Target orga GHS Classi Not a hazard GHS Label Hazard stat	ance has not been classified at this time according to the Globally d System (GHS) of Classification and Labeling of Chemicals. d: Not a hazardous substance :: Not a hazardous substance ins: None known	Supplemental information: Avoid contact with DANGEROUS WHEN WET and WATER-REACTIVE materials. For laboratory use only. Do not ingest.
Health haza	ot otherwise classified: rds not otherwise classified (HHNOC) - Not Known zards not otherwise classified (PHNOC) - Not Known	

Section 3	Composition / information on ingredients					
Chemical Name		CAS #	%	EINECS		
Deionized water		7732-18-5	100%	231-791-2		
Section 4	First aid measures					

Uncontaminated water should not pose any ill health effects. If ill effects develop, get immediate medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Not a fire hazard. Water is used for extinguishing fires.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: Avoid contact with DANGEROUS WHEN WET and WATER-REACTIVE materials. See Section 10.

Section 6 Accidental release measures

Personal Precautions: Uncontaminated material poses no hazards.

Environmental Precautions: Uncontaminated material may be flushed to sewer.

Containment and Cleanup: Uncontaminated material may be flushed to sewer.

Precautions for Safe Handling: Read label on container before using. Not for drug, food or household use. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Wash thoroughly after handling.

Conditions for Safe Storage: Store in a cool area away from water-reactive or dangerous when wet substances.

Section 8	ection 8 Exposure controls / personal protection				
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)	
Exposure Linits.	None listed	None listed	None listed	None listed	

Engineering controls: None required.

Respiratory protection: None required.

A	Physical and chemica	al properties						
Odor: No odor. Odor threshold: D pH: Data not availa	able point: 0°C (32°F) °C (212°F)	Explosion limits Vapor pressure (Vapor density (A	lid/gas): Not flamm Lower / Upper: N mm Hg): 14 ir = 1): 0.7 (Specific gravity): 0	ot flammable	Auto-ignitio Decomposi Viscosity: I Molecular fo	on temperature	stanol / water): Data not availat : Not flammable re: Data not available. le.	
Section 10	Stability and reactivit	reactivity						
Chemical stability Conditions to avo	: Stable id: Absorption of fumes and		s polymerization: \	Vill not occur.				
Incompatible mate silicides, cerium, co		ls: sodium, potassium, ca	ılcium, barium, alkali	metal alloys, liquid	amalgams, ami	ides, carbides, ł	nydrides, aluminum powders,	
Hazardous decom	position products: Electro	olysis will produce explos	ive and flammable h	ydrogen and oxyge	n.			
Section 11	Toxicological informa	ation						
IARC: No compone OSHA: No compone Reproductive toxi STOT-single expo STOT-repeated ex Aspiration hazard Potential health er Inhalation: No ill eff Ingestion: No ill effects Eyes: No ill effects Signs and symptometric State of the symptometric State of	nt of this product present at l ent of this product present at icity: Data not available sure: Data not available rposure: Data not available i: Data not available i: Data not available ffects: ffects expected. fects expected. expected.	evels greater than or ected to the second se	ual to 0.1% is identi	fied as probable, po	ossible or confirm	ned human card		
Section 12	Ecological informatio							
Toxicity to fish: N Toxicity to daphni Toxicity to algae: Persistence and d Mobility in soil: N	lo data available a and other aquatic inverte No data available legradability: No data avail	ebrates: No data availab able Bioaccumula PBT and vPv	tive potential: No B assessment: No	data available	or disposal.			
	Disposal consideration	ons						
Section 13	uidelines are intended for be different. Dispose of in	accordance with all lo	g-size quantities o ocal, state and fede	nly. Federal reguleral reguleral regulations or	lations may ap contract with	ply to empty o a licensed che	container. State and/or local emical disposal agency.	
These disposal g regulations may b	Transport informatio	/11						
These disposal g egulations may b Section 14 UN/NA number: Hazard class: 1	Not applicable	Shipping name: No Packing group: Not 2016 ERG Guide # N	applicable	Reportable Qu	antity: No	Ma	arine pollutant: No	
These disposal g regulations may b Section 14 UN/NA number: Hazard class: N Exceptions: N	Not applicable	Shipping name: No Packing group: Not 2016 ERG Guide # N	applicable	Reportable Qu	antity: No	M	arine pollutant: No	
These disposal g regulations may b Section 14 UN/NA number: Hazard class: N Exceptions: N Section 15	Not applicable	Shipping name: No Packing group: Not 2016 ERG Guide # N on	applicable lot applicable	Reportable Qu	antity: No	Ma	arine pollutant: No	
These disposal g regulations may b Section 14 UN/NA number: Hazard class: N Exceptions: N Section 15	Not applicable Not applicable ot applicable Regulatory information red to be listed if the CAS number	Shipping name: No Packing group: Not 2016 ERG Guide # N on	applicable lot applicable	Reportable Qu RCRA code	antity: No DSL	M	arine pollutant: No CA Prop 65	
These disposal g regulations may b Section 14 UN/NA number: Hazard class: N Exceptions: N Section 15 A chemical is consider Compon Deionized water	Not applicable Not applicable ot applicable Regulatory information red to be listed if the CAS number nent	Shipping name: No Packing group: Not 2016 ERG Guide # N on er for the anhydrous form is	applicable lot applicable on the Inventory list.	•			•	
These disposal g regulations may b Section 14 UN/NA number: Hazard class: N Exceptions: N Section 15 A chemical is consider	Not applicable Not applicable ot applicable Regulatory information red to be listed if the CAS number	Shipping name: No Packing group: Not 2016 ERG Guide # N on er for the anhydrous form is TSCA	applicable lot applicable on the Inventory list. CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65 This product does not contain any chemicals known to the State of California to cause cancer or	

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Section 1	Identification		Page E1 of E
	g Science [®] by Aldon Corporation dge science for the classroom"	221 Rochester Street Avon, NY 14414-9409 (585) 226-6177	CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only. Not for drug, food or household use.
Product ETHYL	ALCOHOL, DENATURED, 95% SOLUTION		
Synonyms Ethano	I, Denatured, 95%		
Section 2	Hazards identification		
Target organs: Eyes Weight Sciences The Sciences State Sciences CHS Classification: Flammable liquid (Cat Acute toxicity, ormal Acute toxicity, ormal Acute toxicity, inhalati Eye irritation (Category 2 STOT-SE (Category 2 STOT-SE (Category 3)	 I GHS06 / GHS07 / GHS08 c Central nervous system, Liver, Kidneys. A constraint of the system of the s	P233+P235: Keep c P240: Ground/bond P241: Use explosior P242: Use only non- P242: Use only non- P243: Take precauti P260: Do not breath P264: Wash hands t P270: Do not eat, dr P271: Use only outd P280: Wear protecti P301+P310: IF SW/ P305+P351+P338: Remove contact len P303+P361+P353: I clothing. Rinse skin P304+P340: IF INH/ breathing. P308+P311: IF expc P337+P313: If eye ii P361+P364: Take of P370+P378: In case spray to extinguish. P403+P405: Store ii	om heat/sparks/open flames/hot surfaces. No smoking. container tightly closed. Keep cool. container and receiving equipment. -proof electrical/ventilating/lighting equipment. -sparking tools. onary measures against static discharge. le mist/vapours/spray. thoroughly after handling. rink or smoke when using this product. toors or in a well-ventilated area. ve gloves/protective clothing/eye protection/face protection. ALLOWED: Immediately call a POISON CENTER or doctor. IF IN EYES: Rinse cautiously with water for several minutes. ses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Take off immediately all contaminated

Section 3 Composi	tion / information on ingredients			
Chemical Name	CAS #	%	EINECS	
Ethyl alcohol	64-17-5	85.9%	200-578-6	
Water	7732-18-5	5.0%	231-791-2	
Isopropyl alcohol (denaturant)	67-63-0	4.8%	200-661-7	
Methanol (denaturant)	67-56-1	4.3%	200-659-6	

Section 4 First aid measures

INGESTION: TOXIC IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: TOXIC IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES SERIOUS EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: TOXIC IN CONTACT WITH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8	Exposure controls / personal protection						
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)			
Exposure Limits:	Ethanol	STEL: 1000 ppm / 1880 mg/m ³ (A3)	TWA: 1000 ppm / 1900 mg/m ³	TWA: 1000 ppm / 1900 mg/m ³			

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHAirator

approved respirator	r.						
Section 9	Physical and chemical pro	perties					
Appearance: Clea Odor: Mild charact Odor threshold: D pH: Data not availa Melting / Freezing Boiling point: 78°C Flash point: 13°C	eristic odor. lata not available. lble. point: -114°C (-173°F)* C (163-174°F)*	Flammability (s Explosion limit Vapor pressure Vapor density (Relative density (te (Butyl acetate = 1) solid/gas): Data not a s: Lower / Upper: 3 e (mm Hg): 44.6 mm Air = 1): 1.59* Specific gravity): 0.794' Soluble in water.	available. .3%(V) / 19%(V)* @ 20°C*	Auto-igniti Decompos Viscosity: Molecular	on temperature:	e: Data not available. e.
Section 10	Stability and reactivity						
Chemical stability Conditions to avoi	: Stable id: Excessive temperatures, heat,		us polymerization: \ me and other sources				
Incompatible mate	erials: Strong oxidizers, inorganic	acids and haloge	ens.				
Hazardous decom	position products: Oxides of car	rbon.					
Section 11	Toxicological information						
Respiratory or ski Germ cell mutage Carcinogenity: Da NTP: No componer IARC classified: Gr OSHA: No compon CA Prop 65: A WA Reproductive toxi STOT-single expo STOT-repeated ex Aspiration hazard Potential health et Inhalation: Inhalatii Ingestion: Ingestio Skin: Contact with Signs and sympto	nt of this product present at levels of oup 3: Not classifiable as to its car ent of this product present at level RNING! : This product can expose city: Data not available sure: The substance or mixture is posure: Data not available : Data not available	le greater than or e cinogenicity to h s greater than or you to Methano classified as sp ss, nausea, vom ecreased reactio prolonged contact realth effects abo	umans. [Isopropanol] equal to 0.1% is iden I, which is known to th ecific target organ tox iting, inability to conce n, euphoria, nausea, v	tified as a carcinoge le State of California icant, single exposu entrate and irritation	en or potential of a to cause birth re, category 3 of of the throat.	carcinogen by OS a defects or other a with narcotic effect	eproductive harm.
	•						
Toxicity to daphnia Toxicity to algae: (Persistence and d Mobility in soil: N Other adverse effe	ects: An environmental hazard car	s: Daphnia magr 50 = 9,310 mg/l/g Bioaccumu PBT and vF	na (Crustacia), EC50 growth rate [Ethanol, a lative potential: No PvB assessment: No	= 10,800 mg/l/24 ho ibsolute] data available o data available	•	9.8% pure]	
Section 13	Disposal considerations						
	uidelines are intended for the d be different. Dispose of in acco Transport information						
Section 15	Packing gr mited quantity equal to or le Regulatory information	ss than 1 L	Reportal 2016 ER	ble Quantity: 5,0 G Guide # 127	000 lbs (2270) kg) Mai	rine pollutant: No
	ed to be listed if the CAS number for th						
Compor	nent	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Ethanol Methanol Isopropanol		Listed Listed Listed	Not listed 5,000 lbs. Not listed	D001 U154 Not listed	Listed Listed Listed	Not listed Not listed Not listed	WARNING - Reproductive Harm - www.P65Warnings.ca.gov.

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

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Section	1
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Identification

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CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300

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Product HEXANES	
Synonyms n-Hexanes / Hexane / n-Hexane	
Section 2 Hazards identification	
Signal word: DANGER Pictograms: GHS02 / GHS07 / GHS08 / GHS09 Target organs: Central nervous system, Peripheral nervous system Image: Image	 Precautionary statement(s): P201: Obtain special instructions before use. P202: Do not handle until all safety precautions have been read and understood. P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking. P233: Keep container tightly closed. P241: Use explosion-proof electrical/ventilating/lighting equipment. P242: Use only non-sparking tools. P243: Take precautionary measures against static discharge. P260: Do not breathe mist/vapours/spray. P264: Wash hands thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. P273: Avoid release to the environment. P280: Wear protective gloves/protective clothing/eye protection/face protection. P301+P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor. P331: Do NOT induce vomiting. P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P332+P313: If skin irritation occurs: Get medical attention. P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P314: Get medical attention if you feel unwell. P370+P378: In case of fire: Use dry chemical, CO₂, water spray or regular foam to extinguish. P303+P235: Store in a well-ventilated place. Keep cool.
Hazards not otherwise classified: Health hazards not otherwise classified (HHNOC) - Not Known	P405: Store locked up. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.
Physical hazards not otherwise classified (PHNOC) - Not Known	

Section 3	Composition / information on	ingredients			
Chemical Name		CAS #	%	EINECS	
n-Hexane		110-54-3	70%	203-777-6	
Mixed isomers		Various	30%	Various	
Section 4	First aid measures				

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Dry chemical, CO₂, water spray or regular foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8	Exposure controls / personal protection						
Exposure Limiter	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)			
Exposure Limits:	Hexane	TWA: 50 ppm / 176 mg/m ³	TWA: 500 ppm / 1800 mg/m ³	TWA: 50 ppm / 180 mg/m ³			

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low. Respiratory protection: Work in fume hood or wear a NIOSH/MSHA-approved respirator.

Physical and chemical properties Section 9 Appearance: Clear, colorless liquid. Evaporation rate (Butyl acetate = 1): 8.10 Partition coefficient: (n-octanol / water): Low Pow: 3.9 Odor: Mild odor Flammability (solid/gas): Data not available. Auto-ignition temperature: Data not available Odor threshold: Data not available. Explosion limits: Lower / Upper: 1.08% / 8.0% Decomposition temperature: Data not available. pH: Data not available Vapor pressure (mm Hg): 5.6 @ 100°F Viscosity: Data not available. Molecular formu la: C₆H₁₄ Melting / Freezing point: Data not available Vapor density (Air = 1): 3.0 Boiling point: 63-68°C (145-156°F) Molecular weight: 86.18 Relative density (Specific gravity): 0.660-0.690 Flash point: -22°C (-7°F) TOC Solubility(ies): Negligible in water.

Section 10 Stability and reactivity

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition.

Incompatible materials: Strong oxidizing, acids, bases, and selected amines.

Hazardous decomposition products: Oxides of carbon.

Section 11 Toxicological information

Acute toxicity: Oral-mouse LD50: 5000 mg/kg ; Dermal-rabbit LD50: 3000 mg/kg

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available Germ cell mutagenicity: Data not available

Carcinogenity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

CA Prop 65: A WARNING! : This product can expose you to Hexane, which is known to the State of California to cause birth defects or other reproductive harm.

Reproductive toxicity: Data not available

STOT-single exposure: The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with narcotic effects.

STOT-repeated exposure: Data not available

Aspiration hazard: Yes

Potential health effects:

Inhalation: Dizziness, drowsiness, lethargy, headache, nausea, weakness, unconciousness.

Ingestion: Aspiration hazard. Liquid can directly enter the lungs (aspirated) when swallowed or vomited. Serious lung damage and possible fatal chemical pneumonia can

develop if this occurs.

Skin: Prolonged or repeated contact may cause dry skin, redness and pain.

Eves: Contact causes redness and pain.

Signs and symptoms of exposure: See Potential health effects above.

Ecological information

Additional information: RTECS #: MN9275000

Section 12

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available Bioaccumulative potential: No data available Mobility in soil: No data available

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Disposal considerations Section 13

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport information UN/NA number: UN1208 Shipping name: Hexanes Hazard class: 3 Packing group: || Reportable Quantity: Yes Marine pollutant: No Exceptions: Limited quantity equal to or less than 1 L 2016 ERG Guide # 128 Section 15 **Regulatory information** A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list. DSL NDSL CA Prop 65 Component TSCA CERLCA (RQ) RCRA code Hexanes Listed 5000 lb (2270 kg) D001 Listed Not listed WARNING Reproductive Harm - www.P65Warnings.ca.gov. Section 16 Other information The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make indepen-

dent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook

Identification

Section 1

SAFETY DATA SHEET

CORROSIVE STORAGE CODE WHITE

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CHEMTREC 24 Hour Emergency Innovating Science[®] by Aldon Corporation Phone Number (800) 424-9300 221 Rochester Street For laboratory and industrial use only. Avon, NY 14414-9409 Not for drug, food or household use. "cutting edge science for the classroom" (585) 226-6177 HYDROCHLORIC ACID, 0.1 MOLAR (0.1 NORMAL) SOLUTION Product Synonyms Muriatic Acid, Water Solution / Hydrogen Chloride, Water Solution Section 2 Hazards identification Signal word: WARNING Precautionary statement(s): P264: Wash hands thoroughly after handling. Pictograms: None required Target organs: Respiratory system, skin, eyes, lungs. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. GHS Classification: P332+P313: If skin irritation occurs: Get medical attention. P337+P313: If eye irritation persists: Get medical attention. Skin irritant (Category 3) Eye irritant (Category 2B) GHS Label information: Hazard statement(s): H316: Causes mild skin irritation. H320: Causes eye irritation. Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on ingredients					
Chemical Name		CAS #	%	EINECS		
Water Hydrochloric acid		7732-18-5 7647-01-0	99.68% 0.314%	231-791-2 231-595-7		
Section 4	First aid measures					

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Contact with metals produce hydrogen, which is flammable and may produce explosive mixtures with air.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8	Exposure controls / personal protection						
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)			
Exposure Limits:	Hydrogen chloride	STEL: C 2 ppm / C 2.98 mg/m ³	STEL: C 5 ppm / C 7 mg/m ³	STEL: C 5 ppm / C 7 mg/m ³			

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low. Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHA-approved respirator.

approved respirato	r.					
	No data available able point: ~ 0°C (~ 32°F) [wa 00°C (212°F) [water]	Evaporatio Flammabili Explosion Vapor pres Relative de	n rate (= 1): < 1 ty (solid/gas): No dat limits: Upper/Lower: sure (mm Hg): 14 [wat ity (Air = 1): 0.7 [wat nsity (Specific gravity es): Complete.	No data available iter] er]	Auto-ignition temper	Mixture.
Section 10	Stability and reactive	ity			1	
Chemical stability Conditions to avo	: Stable id: Containers may burst v		rdous polymerization contact with water.	: Will not occur.		
Incompatible mate formaldehyde.	erials: Metals, bases, activ	ve metals, alkali meta	als, oxidizing agents, hy	/droxides, amines, carb	onates, cyanides, sulfide	es, sulfites,
Hazardous decom	position products: Hydro	ogen chloride gas.				
Section 11	Toxicological inform	nation				
Acute toxicity: Data not available Skin corrosion/irritation: Data not available at this dilution. Respiratory or skin sensitization: Data not available at this dilution. Respiratory or skin sensitization: Data not available Germ cell mutagenicity: Data not available Carcinogenity: Data not available NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP. IARC: Group 3: Not classifiable as to its carcinogenicity to humans. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. Reproductive toxicity: Data not available STOT-single exposure: Data not available STOT-repeated exposure: Data not available Aspiration hazard: Data not available Potential health effects: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards. Inhalation: May be harmful if inhaled. Material may cause irritation to the tissue of the mucous membranes and upper respiratory tract. Ingestion: May be harmful if iswallowed. Skin: May cause irritation and/or burns. Eyes: May cause irritation and/or burns. Signs and symptoms of exposure: Data not available at this dilution. Additional information: RTECS #: MW4025000 [Hydrochioric acid]						
Section 12	Ecological informati					
Toxicity to daphni Toxicity to algae: Persistence and d Mobility in soil: N	egradability: No data ava	tebrates: No data av illable Bioaccu PBT and	vailable Imulative potential: N d vPvB assessment:	lo data available No data available	disposal.	
Section 13	Disposal considerat	tions				
	be different. Dispose of i	in accordance with				npty container. State and/or local ed chemical disposal agency.
UN/NA number:	Transport informati Not applicable	Shipping name:	Not Regulated			
Hazard class: N Exceptions: No	lot applicable	Packing group:	-	Reportable Quar	ntity: No	Marine pollutant: No

A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.							
Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65	
Hydrochloric acid, 0.1M	Listed	Not listed	Not listed	Not listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.	

Section 16 Other information

Regulatory information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

Section 15

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Section 1

Identification

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Product MAGNESIUM METAL, TURNINGS	
Synonyms Magnesium	
Section 2 Hazards identification	
Signal word: DANGER Pictograms: GHS02 Farget organs: None known SHS Classification: Flammable solid (Category 1) Self heating substance (Category 2) Vater reactivity (Category 2) SHS Label information: Hazard statement: H228: Flammable solid. H252: Self-heating in large quantities; may catch fire. H251: In contact with water releases flammable gas.	 Precautionary statement: P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking. P223: Do not allow contact with water. P231+P232: Handle under inert gas. Protect from moisture. P235+P410: Keep cool. Protect from sunlight. P240: Ground/bond container and receiving equipment. P241: Use explosion-proof electrical/ventilating/lighting equipment. P280: Wear protective gloves/protective clothing/eye protection/face protection. P335+P334: Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages. P370+P378: In case of fire: Use graphite powder, soda ash, powdered sodium chloride, or an appropriate metal-fire-extinguishing dry powder to extinguish. P402+P404: Store in a dry place. Store in a closed container. P420: Store away from other materials. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Health hazards not otherwise classified (HHNOC) - Combustible dust Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on ingredients					
Chemical Name		CAS #	%	EINECS		
Magnesium		7439-95-4	99.8%	231-104-6		
Section 4	First aid measures					

INGESTION: CAUSES BURNING SENSATION IN THE MOUTH. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE BURNS AND CORNEAL ABRASIONS. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use only graphite powder, soda ash, powdered sodium chloride, or an appropriate metal-fire-extinguishing dry powder. DO NOT use water, carbon dioxide, or foam!

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: When heated in air to a temperature near its melting point, magnesium may ignite and burn. Dangerous in the form of dust or flakes and when exposed to flame or by violent chemical reaction with oxidizing agents. Magnesium may react with moisture or acids to evolve hydrogen gas, which is a highly dangerous fire or explosion hazard.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Using non-sparking tools, sweep up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources. Keep away from water and moisture.

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Limits:	Magnesium	Not established	Not established	Not established		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

approved respirator	•						
Section 9	Physical and chemical pro	perties					
Appearance:Solid. Silvery gray, metal turnings Odor:Evaporation rate (=1): Data not available Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Data not available. Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): 1 mm @ 621°C Vapor density (Air = 1): Data not available Relative density (Specific gravity): 1.74 @ 20°C Solubility(ies):Partition coefficient: Data not available Auto-ignition temperature: 510°C (950°F) Decomposition temperature: Data not available. Viscosity: Data not available. Viscosity: Data not available.Metting / Freezing point:651°C (1203.8°F) Relative density (Specific gravity): 1.74 @ 20°C Solubility(ies):Molecular formula: Mg Molecular weight: 24.31							
Section 10	Stability and reactivity						
Incompatible mate	Stable d: Excessive temperatures, heat, rials: Magnesium will react with v position products: Hydrogen.	sparks, open fla		of ignition.	chlorine, bron	nine, iodine and o	oxidizing agents.
Section 11	Toxicological information						
Skin corrosion/irritation: Data not available Serious eye damage/irritation: Data not available Respiratory or skin sensitization: Data not available Germ cell mutagenicity: Data not available Carcinogenity: Data not available NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. Reproductive toxicity: Data not available STOT-single exposure: Data not available STOT-repeated exposure: Data not available STOT-repeated exposure: Data not available STOT-repeated exposure: Data not available STOT-repeated exposure: Data not available Stot-instruction thazard: Data not available Stot-instruction the store that on the mouth and may cause abdominal pain and diarrhea. Ingestion: Ingestion causes burning sensation in the mouth and may cause abdominal pain and diarrhea. Skin: Particles imbedded in the skin may cause eruptions. Molten magnesium may cause serious skin burns. Eyes: Contact with eyes may cause irritation and corneal scratches. Avoid direct viewing of magnesium fires as eye injury may result, use fire glasses. Signs and symptoms of exposure: Exposure to magnesium oxide fume subsequent to burning can result in metal fume fever. The temporary symptoms can include fever, chills, nausea, vomiting and muscular pain. Onset of symptoms occurs 4-12 hours after exposure. Exercise appropriate procedures to minimize potential hazards.							
Section 12	Ecological information						
Toxicity to fish: No data available Toxicity to daphnia and other aquatic invertebrates: No data available Toxicity to algae: No data available Persistence and degradability: No data available Mobility in soil: No data available PBT and vPvB assessment: No data available Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Section 13 Disposal considerations These disposal quidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local							
regulations may b	e different. Dispose of in acco	rdance with al	l local, state and fede	eral regulations or	contract with	n a licensed che	emical disposal agency.
Section 14	Transport information						
UN/NA number: Hazard class: 4. Exceptions: Lin			Reporta	ble Quantity: No G Guide # 138	0	Ma	arine pollutant: No
Section 15	Regulatory information	-					
A chemical is consider	ed to be listed if the CAS number for th						
Compon	ent	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Magnesium		Listed	Not listed	D001	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Section 16	Other information						

GENERAL STORAGE CODE GREEN

Section 1

Identification

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Innovating Science[®] by Aldon Corporation

"cutting edge science for the classroom"

221 Rochester Street Avon, NY 14414-9409 (585) 226-6177 CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only.

Not for drug, food or household use.

Product	MAGNESIUM OXIDE, LIGHT POWDER	
Synonyms	Magnesia / Calcined Magnesia / Calcined Brucite	
Section 2	Hazards identification	
to the Globa Chemicals. Signal word Pictograms Target orga GHS Classi GHS Label	ance or mixture has not been classified as hazardous according ally Harmonized System (GHS) of Classification and Labeling of : Not classified : Not classified ins: None known fication: Not classified information: Hazard statement: Not classified ary statement: Not classified	Supplemental information: Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on	ingredients			
Chemical Name		CAS #	%	EINECS	
Magnesium oxide		1309-48-4	100%	215-171-9	
Section 4	First aid measures				

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Limits:	Magnesium oxide	TWA: 10 I mg/m ³ (A4)	TWA: 15 mg/m ³ Total particulate	Not established		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

approved respirator.							
Section 9 Physical and chemical p	roperties						
Appearance: Solid, white powder Evaporation rate (=1): Data not available Partition coefficient: Data not available Odor: No odor Flammability (solid/gas): Data not available Partition coefficient: Data not available Odor threshold: Data not available Flammability (solid/gas): Data not available Auto-ignition temperature: Data not available DH: Data not available Explosion limits: Lower / Upper: Not applicable Vapor pressure (mm Hg): Negligible Viscosity: Data not available. Melting / Freezing point: 2800°C (5072°F) Vapor density (Air = 1): Data not available Molecular formula: MgO Boiling point: 3600°C (6512°F) Relative density (Specific gravity): 3.65-3.75 Molecular weight: 40.30							
Section 10 Stability and reactivity							
Chemical stability: Stable Conditions to avoid: Absorbs carbon dioxide and		us polymerization: \ air.	Vill not occur.				
Incompatible materials: Reacts violently with stro	ng acids.						
Hazardous decomposition products: Magnesiur	n oxides.						
Section 11 Toxicological information	n						
Acute toxicity: Data not available Skin corrosion/irritation: Human - slight irritant Serious eye damage/irritation: Human - slight irritant Respiratory or skin sensitization: Data not available Germ cell mutagenicity: Data not available Carcinogenity: Data not available Carcinogenity: Data not available NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. Reproductive toxicity: Data not available STOT-single exposure: Data not available STOT-repeated exposure: Data not available Aspiration hazard: Data not available Potential health effects: Inhalation: Inhalation may cause coughing. Ingestion: Ingestion may cause coughing. Ingestion: Ingestion may cause winitig. Skin: Contact with skin may cause irritation. Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Signs and symptoms of exposures to minimize potentia							
Section 12 Ecological information							
Toxicity to fish: No data available Toxicity to daphnia and other aquatic invertebrates: No data available Toxicity to algae: No data available Persistence and degradability: No data available Mobility in soil: No data available PBT and vPvB assessment: No data available Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.							
Section 13 Disposal considerations							
These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.							
Section 14 Transport information							
UN/NA number: Not applicable Shipping name: Not Regulated Hazard class: Not applicable Packing group: Not applicable Reportable Quantity: Marine pollutant: No Exceptions: Not applicable 2016 ERG Guide # Not applicable Reportable Quantity: No Marine pollutant: No Section 15 Regulatory information Regulatory Reportable Reportable Reportable Reportable Quantity: No Marine pollutant: No							
A chemical is considered to be listed if the CAS number for	r the anhydrous form	is on the Inventory list.					
Component	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65	
Magnesium oxide	Listed	Not listed	Not listed	Listed	Not listed	This product does not contain	

Magnesium oxide any chemicals known to the State of California to cause cancer or reproductive toxicity. Section 16 Other information

GENERAL STORAGE CODE GREEN

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S	ec	tio	n	1

Identification

Innovating Science[®] by Aldon Corporation

"cutting edge science for the classroom"

221 Rochester Street Avon, NY 14414-9409 (585) 226-6177

CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300

For laboratory and industrial use only. Not for drug, food or household use.

Product PARAFFIN WAX, REFINED	
Synonyms Paraffin / Clay Treated Paraffin Wax / Refined Paraffin	
Section 2 Hazards identification	
This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals. Signal word: Not classified Pictograms: Not classified Target organs: None known GHS Classification: Not classified GHS Label information: Hazard statement: Not classified Precautionary statement: Not classified	Supplemental information: USE CAUTION WHEN HEATING. Molten wax may cause burns. Overheating will cause wax to ignite. Do not store near high heat or open flames. Avoid prolonged or repeated skin contact. Wash thoroughly after handling.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition	n / information on ingredients			
Chemical Name	CAS #	%	EINECS	
Paraffin wax, refined	64742-43-4	100%	265-145-6	
Section 4 First aid mea	asures	1		

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical or dry sand.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Water or foam may cause frothing. Overheating will cause wax to ignite.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Limits.	Paraffin wax fume	TWA: 2 mg/m ³	Not established	TWA: 2 mg/m ³		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low. Respiratory protection: None should be needed in normal laboratory handling at room temperatures.

Section 9 Physical and chemical pr	operties	
Appearance: Solid. White granules Odor: Practically odorless. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: 48.8-71°C (120-160°F) Boiling point: Data not available Flash point: >187°C (>370°F)	Evaporation rate (=1): Data not available Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): Nil Vapor density (Air = 1): Data not available Relative density (Specific gravity): 0.8 Solubility(ies): Nil	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Mixture of petroleum hardrocarbons Molecular weight: Data not available
Section 10 Stability and reactivity		

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures, heat, and open flame.

Incompatible materials: Strong oxidizers.

Hazardous decomposition products: Carbon oxides.

Section 11 **Toxicological information**

Acute toxicity: Oral-rat LD50: >3750 mg/kg ; Dermal-rat LC50: >3600 mg/kg Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available Germ cell mutagenicity: Data not available

Carcinogenity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

This material is considered to be in the slight to non-toxic category. Low oral toxicity. Molten wax may cling to skin and result in thermal burns. May be irritating to the skin upon prolonged or repeated contact. Vapors from heated product may cause irritation to the eyes. Inhalation of heated vapors may cause irritation of the nose, throat and lungs. Exercise appropriate procedures to minimize potential hazards.

Signs and symptoms of exposure: To the best of our knowledge the chemical, physical and toxicological properties have not been thoroughly investigated. Specific data is not available. Exercise appropriate procedures to minimize potential hazards.

Additional information: RTECS #: RV0350000

Section 12 **Ecological information**

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available	Bioaccumulative potential: No data availabl
Mobility in soil: No data available	PBT and vPvB assessment: No data availab

PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Disposal considerations Section 13

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency. - 41 - -- 4 4

Section 14	mansport morn	auon					
UN/NA number Hazard class: Exceptions: N		Shipping name: N Packing group: No 2016 ERG Guide #	ot applicable	Reportable Qua	antity: No	Ma	arine pollutant: No
Section 15	Regulatory inform	nation					
A chemical is consid	ered to be listed if the CAS r	number for the anhydrous form	is on the Inventory list.				
Compo	onent	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Parafin wax		Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Section 16	Other information	n					
							ered by them and must make indepen-

IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook Form 06/2015

Section 1 Identification Page E1 of E2 **CHEMTREC 24 Hour Emergency** Innovating Science[®] by Aldon Corporation Phone Number (800) 424-9300 221 Rochester Street For laboratory and industrial use only. Avon, NY 14414-9409 Not for drug, food or household use. "cutting edge science for the classroom" (585) 226-6177 1% PHENOLPHTHALEIN IN ISOPROPYL ALCOHOL SOLUTION Product Synonyms 1% Phenolphthalein in IPA Section 2 Hazards identification Signal word: DANGER Precautionary statement(s): Pictograms: GHS02 / GHS07 / GHS08 P201: Obtain special instructions before use. Target organs: Central nervous system, Liver, Kidneys. P202: Do not handle until all safety precautions have been read and understood. P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking. P233: Keep container tightly closed. P240: Ground/bond container and receiving equipment. P241: Use explosion-proof electrical/ventilating/lighting equipment. P242: Use only non-sparking tools. **GHS Classification:** P243: Take precautionary measures against static discharge. Flammable liquid (Category 2) P260: Do not breathe mist/vapours/spray. Eye irritation (Category 2) P264: Wash hands thoroughly after handling STOT-SE (Category 2) P271: Use only outdoors or in a well-ventilated area. Mutagenicity (Category 2) P280: Wear protective gloves/protective clothing/eye protection/face protection. Carcinogen (Category 1B) P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated Reproductive toxicity (Category 2) clothing. Rinse skin with water/shower. P304+P340: IF INHALED: Remove person to fresh air and keep in a position GHS Label information: Hazard statement(s): comfortable for breathing H225: Highly flammable liquid and vapour. P305+P351+P338: IF IN EYES: Rinse cautiously with water for 15 minutes. Remove H319: Causes serious eve irritation. contact lenses, if present and easy to do. Continue rinsing H336: May cause drowsiness or dizziness. P312: Call a POISON CENTER or doctor if you feel unwell. H341: Suspected of causing genetic defects. P308+P313: IF exposed or concerned: Get medical attention. H350: May cause cancer. P337+P313: If eye irritation persists: Get medical attention. H361: Suspected of damaging fertility. P362+P364: Take off contaminated clothing and wash it before reuse. P370+P378: In case of fire: Use dry chemical, alcohol foam, carbon dioxide or water spray to extinguish. P403+P235: Store in a well-ventilated place. Keep cool. P501: Dispose of contents/container to a licensed chemical disposal agency in

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on ingredients						
Chemical Name		CAS #	%	EINECS			
Isopropyl alcohol Water Phenolphthalein		67-63-0 7732-18-5 77-09-8	70% 29% 1%	200-661-7 231-791-2 201-004-7			
Section 4	First aid measures						

accordance with local/regional/national regulations.

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL. IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

Accidental release measures Section 6

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8	Exposure controls / personal protection						
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)			
Exposure Linits.	Isopropanol	TWA: 200 ppm / STEL: 400 ppm	TWA: 400 ppm / 980 mg/m ³	TWA: 400 ppm / STEL: 500 ppm			

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9							
0000000	Physical and chemical pr	operties					
Boiling point: Appr	dor. Data not available.	Flammability (s Explosion limit Vapor pressure Vapor density Relative density (te (Butyl acetate = 1): solid/gas): Data not a s: Lower / Upper: 2 ^c e (mm Hg): 33 mm @ (Air = 1): 2.1 [Pure IP/ Specific gravity): 0.8 [*] Complete in water.	vailable. % / 12% [Pure IPA] 20°C [Pure IPA]	Auto-ignitio Decompos Viscosity: Molecular	n temperature: 399	
Section 10	Stability and reactivity						
Chemical stability	y: Stable pid: Excessive temperatures, hea		us polymerization: V				
	terials: Strong oxidizing materials			•	compounds o	an react vigorous	ly with this alcohol
•	nposition products: Oxides of ca		, , ,		·	5	
Section 11	Toxicological information						
Carcinogenity: D NTP: Reasonably IARC classified: G OSHA: No compoo CA Prop 65: WW Reproductive tox STOT-single expo STOT-repeated e: Aspiration hazare Potential health e Inhalation: Inhalat and irritation of the Ingestion: Aspirati develop if this occi Skin: Prolonged o	anticipated to be a human carcino iroup 2B: Possibly carcinogenic to nent of this product present at leve ARNING! :This product can exposi cicity: Data not available osure: The substance or mixture xposure: Data not available d: Yes effects: tion of high vapor concentrations r e throat. Continued inhalation may ion hazard. Liquid can directly end	humans. [Phenol els greater than or e you to Phenolph is classified as sp nay cause central result in unconso er the lungs (aspi ation and drying, swelling, and/or bl	phthalein] equal to 0.1% is ident thalein, which is know ecific target organ toxic nervous system depre ciousness and death. rated) when swallowed cracking and defatting	n to the State of Čal cant, single exposur ession resulting in di: d or vomited. Seriou	ifornia to caus e, category 3 zziness, drow is lung damaç	se cancer. with narcotic effect siness, nausea, v le and possible fa	cts. omiting, inability to concentrate
Signs and sympt	nation: RTECS #: NT8050000 [Is		ove.	ein]			
Signs and sympt			ove.	ein]			
Signs and sympt Additional inform Section 12 Toxicity to fish: F Toxicity to daphn Toxicity to algae: Persistence and o Mobility in soil: N Other adverse eff	Antion: RTECS #: NT8050000 [Is Ecological information Pimephales promelas (Fish, fresh tia and other aquatic invertebrat Scenedesmus quadricauda (Alga degradability: No data available No data available Tects: An environmental hazard ca	water) LC50: 964(es: Daphnia mag e), LOEC50 = 1,8 Bioaccumu PBT and vi	ove. 380000 [Phenolphthale 0 mg/l/96 hours [Isopro na (Crustacia), EC50 = 00 mg/l/7 days [Isopro ulative potential: No o PvB assessment: No	panol] ⊳10,000 mg/l/24 ho panol] data available data available		nol]	
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Page E1 of E2

ection 1	Identification		

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Product POTASSIUM NITRATE	
Synonyms Potash Nitrate / Saltpeter	
Section 2 Hazards identification	
 Signal word: DANGER Pictograms: GHS03 / GHS07 Target organs: Red blood cells www.arguitation. Oxidizing solid (Category 2) Skin irritation (Category 2) Eye irritation (Category 2B) STOT-SE (Category 3) GHS Label information: Hazard statement: H272: May intensify fire; oxidizer. H315: Causes skin irritation. H319: Causes serious eye irritation. H335: May cause respiratory irritation. 	 Precautionary statement: P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking. P220: Keep away from clothing/incompatible/combustible materials. P221: Take any precaution to avoid mixing with combustibles/reducing agents. P264: Wash hands thoroughly after handling. P271: Use only outdoors or in a well-ventilated area. P280: Wear protective gloves/protective clothing/eye protection/face protection. P370+P378: In case of fire: Use water to extinguish. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P37+P313: If eye irritation persists: Get medical attention. P304+P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing. P312: Call a POISON CENTER or doctor if you feel unwell. P302+P352: IF ON SKIN: Wash with plenty of water and soap. P332+P313: If skin irritation occurs: Get medical attention. P362+P364: Take off contaminated clothing and wash it before reuse. P403+P233: Store in a well-ventilated place. Keep container tightly closed. P405: Store locked up. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on ingredients							
Chemical Name		CAS #	%	EINECS				
Potassium nitrate		7757-79-1	100%	231-818-8				
Section 4	First aid measures							

INGESTION: HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use water. Do not use dry chemicals or foams. CO2 or Halon® may provide limited control.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Not combustible but enhances combustion of other substances. Risk of fire and explosion on contact with reducing agents.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8	Exposure controls / personal protection						
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)			
Exposure Linits.	Potassium nitrate	Not established	Not established	Not established			

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator

approved respirator.							
Section 9	Physical and chemical prop	erties					
Appearance:Solid. White crystals or prillsEvaporation rate (=1):Data not availablePartition coefficient:Data not availableOdor:No odor.Flammability (solid/gas):Data not available.Auto-ignition temperature:Data not available.Odor threshold:Data not available.Explosion limits:Lower / Upper:Data not available.Decomposition temperature:Data not available.pH:Data not available.Vapor pressure (mm Hg):NegligibleViscosity:Data not available.Melting / Freezing point:303°C (631°F)Relative density (Specific gravity):2.1Molecular formula:KNO3Boiling point:Not flammableSolubility(ies):36 g/100 ml in water.Molecular weight:101.11							Data not available 'e: Data not available.
Section 10	Stability and reactivity		-				
Chemical stability: S Conditions to avoid: Incompatible materia	Section 10 Stability and reactivity Chemical stability: Stability: Conditions to avoid: Excessive temperatures, heat, sparks, open flame and other sources of ignition. Incompatible materials: Heavy metals, phosphites, organic compounds, carbonaceous materials, strong acids and many other materials. Hazardous decomposition products: Nitrogen oxides and toxic metal fumes.						
Section 11	Toxicological information						
Skin corrosion/irritat Serious eye damage Respiratory or skin s Germ cell mutagenic Carcinogenity: Data NTP: No component of IARC: No component OSHA: No component OSHA: No component Reproductive toxicit STOT-single exposu STOT-repeated expo Aspiration hazard: I Potential health effee Inhalation: Inhalation Ingestion: Ingestion of Skin: Contact with ski Eyes: Contact with ey Signs and symptoms	Acute toxicity: Oral-rat LD50: 3015 mg/kg Skin corrosion/irritation: Data not available Serious eye damage/irritation: Data not available Respiratory or skin sensitization: Data not available Gern cell mutagenicity: Data not available Carcinogenity: Data not available Orgenity: Data not available Reproductive: Data not available NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. Reproductive toxicity: Data not available STOT-single exposure: Data not available STOT-repeated exposure: Data not available Aspiration hazard: Data not available Aspiration hazard: Data not available Potential health effects: Inhalation: Inhalation: Ingestion: Ingestion: Ingestion causes addominal pain, blue lips, fingernails and skin, dizziness, labored breathing, confusion, convulsions, diarrhea, headache, nausea, unconsciousness. Skin: Contact with skin causes redness. <t< td=""></t<>						
Section 12	Ecological information						
Toxicity to fish: Poecilia reticulata (fish, fresh water), LC50 = 1378 mg/L/96 hours Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea), TLm = 39 mg/L/96 hours Toxicity to algae: No data available Persistence and degradability: No data available Mobility in soil: No data available PBT and vPvB assessment: No data available Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Section 13 Disposal considerations							
regulations may be	lelines are intended for the dis different. Dispose of in accor						
UN/NA number: U Hazard class: 5.1 Exceptions: Limit	Section 14 Transport information UN/NA number: UN1486 Shipping name: Potassium nitrate Hazard class: 5.1 Packing group: III Reportable Quantity: No Marine pollutant: No Exceptions: Limited quantity equal to or less than 5 Kg 2016 ERG Guide # 140 140						
Section 15	Regulatory information						
	to be listed if the CAS number for the	-					
Componer	nt	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Potassium nitrate		Listed	Not listed	D001	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Section 16	Other information						

Section 1	Identification		Page E1 of E2
	vating Science [®] by Aldon Corporation tting edge science for the classroom"	221 Rochester Street Avon, NY 14414-9409 (585) 226-6177	CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only. Not for drug, food or household use.
Product	SALICYLIC ACID		
Synonyms	2-Hydroxybenzoic acid		
Section 2	Hazards identification		
Pictograms Target orga GHS Classi Acute toxicit Eye irritatior STOT SE (C GHS Label H302: Harm H319: Cause	ns: Central nervous system, Kidneys, Pancreas fication: y, oral (Category 4) h (Category 2B)	P26 P26 P27 P27 P28 P30 brea P30 doc P30 doc P30 Rer P33 P40 P40 P40	 cautionary statement: 1: Avoid breathing dust. 4: Wash hands thoroughly after handling. 0: Do not eat, drink or smoke when using this product. 1: Use only outdoors or in a well-ventilated area. 0: Wear protective gloves/protective clothing/eye protection/face protection. 4+P340: IF INHALED: Remove person to fresh air and keep comfortable for athing. 1+P330+P312: IF SWALLOWED: Rinse mouth. Call a POISON CENTER or tor if you feel unwell. 5+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. nove contact lenses, if present and easy to do. Continue rinsing. 7+P313: If eye irritation persists: Get medical attention. 3+P233: Store in a well-ventilated place. Keep container tightly closed. 5: Store locked up. 1: Dispose of contents/container to a licensed chemical disposal agency in ordance with local/regional/national regulations.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on	ingredients			
Chemical Name		CAS #	%	EINECS	
Salicylic acid		69-72-7	100%	200-712-3	
Section 4	First aid measures				

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dusts may form flammable and explosive mixtures in air.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Remove all sources of ignition. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources. Light sensitive. Protect from light and moisture.

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Limits.	Salicylic acid	Not listed	Not listed	Not listed		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9 Appearance: Soli							
Annearance: Soli	Physical and chemical	properties					
Odor: No odor. Odor threshold: pH: 2.4	j point: 158-160°C (316-320°F 1°C (412°F)	Flammability (Explosion lim Vapor pressur) Vapor density Relative densi	ate (Butyl acetate = 1) (solid/gas): Data not its: Lower: Ca. 1.1% re (mm Hg): 1 mm @ (Air = 1): 4.8 ity (Specific gravity): : Slightly soluble in wa	available. @ 20°C Upper: N/A 114°C 1.443 (20°/4°)	Auto-igniti Decompos Viscosity: Molecular 1		: 540°C (1004°F) re: 540°C (1004°F) le.
Section 10	Stability and reactivity						
Incompatible mat	y: Stable oid: Excessive temperatures a terials: Strong oxidizers, iron s nposition products: Oxides c	nd heat. Light and r alts, spirit nitrous et	her, lead acetate and i				
Section 11	Toxicological informati	on					
IARC: No compon OSHA: No compo Reproductive tox STOT-single expo STOT-repeated e Aspiration hazar Potential health of Inhalation: Inhalat Ingestion: Ingestif hearing difficulty, V CNS disturbances Skin: Contact cau Eyes: Contact cau Signs and sympt	tion causes irritation of the muc on causes gastrointestinal irrita visual disturbance, mental confu s uch as convulsions and coma uses irritation and possible burn uses severe irritation. May resu oms of exposure: See Poten	vels greater than or evels greater than or evels greater than or re is classified as sp ous membrane and ion with nausea, vo sion, drowsiness, s . skin eruptions, an s, especially if the s t in corneal injury. ial health effects ab	equal to 0.1% is ident or equal to 0.1% is ident pecific target organ tox upper respiratory trac miting and diarrhea. M weating, thirst, hyperv d alteration in the acid kin is wet or moist. Ma	ified as probable, pos tified as a carcinoger kicant, single exposure t. May cause 'salicylism' entilation, nausea, vo -base balance. ay cause rash and erc	sible or confir or potential of e, category 3 of , characterize miting and dia options.	med human carc arcinogen by OS with narcotic effe d by headache, (rrhea. Severe s	SHA.
	nation: RTECS #: VO0525000						
Additional inform Section 12	Ecological information						
Section 12 Toxicity to fish: 1 Toxicity to daphen Toxicity to algae: Persistence and o Mobility in soil: 1	Leuciscus idus (fish, fresh wate ia and other aquatic inverteb Haematococcus pluvialis (Alga degradability: No data availab	rates: Daphnia mag e), EC10 = 165 mg, le Bioaccum PBT and v I cannot be exclude	gna (Crustacea), EC50 /L/4 hours ulative potential: No PvB assessment: No	data available o data available			
Section 12 Toxicity to fish: I Toxicity to daphn Toxicity to algae: Persistence and o Mobility in soil: 1 Other adverse eff Section 13 These disposal or regulations may	Leuciscus idus (fish, fresh wate ia and other aquatic inverteb Haematococcus pluvialis (Alga degradability: No data availab No data available fects: An environmental hazard Disposal consideration guidelines are intended for th be different. Dispose of in a	e), EC10 = 165 mg Bioaccum PBT and v I cannot be exclude s e disposal of cata	gna (Crustacea), EC50 /L/4 hours ulative potential: No /PvB assessment: No d in the event of unpro alog-size quantities of	data available o data available ofessional handling or only. Federal requia	disposal. tions may a	oply to empty c a licensed che	ontainer. State and/or local mical disposal agency.
Section 12 Toxicity to fish: I Toxicity to daphn Toxicity to algae: Persistence and o Mobility in soil: N Other adverse eff Section 13 These disposal or regulations may Section 14	Leuciscus idus (fish, fresh wate ia and other aquatic inverteb Haematococcus pluvialis (Alga degradability: No data availab No data available fects: An environmental hazare Disposal consideration guidelines are intended for th be different. Dispose of in a Transport information	e), EC10 = 165 mg, Bioaccum PBT and v I cannot be exclude s e disposal of cata ccordance with al	gna (Crustacea), EC50 /L/4 hours ulative potential: No PvB assessment: No d in the event of unpro alog-size quantities o I local, state and fed	data available o data available ofessional handling or only. Federal requia	disposal. tions may a	oply to empty c a licensed che	ontainer. State and/or local mical disposal agency.
Section 12 Toxicity to fish: I Toxicity to daphn Toxicity to algae: Persistence and o Mobility in soil: N Other adverse eff Section 13 These disposal or regulations may Section 14	Leuciscus idus (fish, fresh wate ia and other aquatic inverteb Haematococcus pluvialis (Alga degradability: No data availab No data available fects: An environmental hazard Disposal consideration guidelines are intended for th be different. Dispose of in a Transport information Transpole Sh Not applicable Pa	e), EC10 = 165 mg Bioaccum PBT and v I cannot be exclude s e disposal of cata	gna (Crustacea), EC50 /L/4 hours ulative potential: No PvB assessment: No d in the event of unpro alog-size quantities of l local, state and fed Not Regulated lot applicable	data available o data available ofessional handling or only. Federal requia	disposal. tions may a contract with	a licensed che	ontainer. State and/or local mical disposal agency. arine pollutant: No
Section 12 Toxicity to fish: I Toxicity to daphn Toxicity to dapae: Persistence and o Mobility in soil: N Other adverse eff Section 13 These disposal or regulations may Section 14 UN/NA number Hazard class: Exceptions: N Section 15	Leuciscus idus (fish, fresh wate ia and other aquatic inverteb Haematococcus pluvialis (Alga degradability: No data availab No data available fects: An environmental hazaro Disposal consideration guidelines are intended for th be different. Dispose of in a Transport information Transport sinformation Not applicable Not applicable Regulatory information	rates: Daphnia magel, EC10 = 165 mg. e), EC10 = 165 mg. Bioaccum PBT and v I cannot be exclude s e disposal of cata ccordance with al hipping name: N cking group: N 16 ERG Guide #	gna (Crustacea), EC50 /L/4 hours ulative potential: No PvB assessment: No d in the event of unpro- alog-size quantities of l local, state and fed Not Regulated lot applicable Not applicable	data available o data available ofessional handling or only. Federal regula leral regulations or o	disposal. tions may a contract with	a licensed che	mical disposal agency.
Section 12 Toxicity to fish: I Toxicity to daphn Toxicity to dapae: Persistence and o Mobility in soil: N Other adverse eff Section 13 These disposal or regulations may Section 14 UN/NA number Hazard class: Exceptions: N Section 15	Leuciscus idus (fish, fresh wate ia and other aquatic inverteb Haematococcus pluvialis (Alga degradability: No data availat No data available fects: An environmental hazard Disposal consideration guidelines are intended for th be different. Dispose of in a Transport information Transport information Tot applicable Pa Not applicable Pa lot applicable 20 Regulatory information pred to be listed if the CAS number	rates: Daphnia magel, EC10 = 165 mg. e), EC10 = 165 mg. Bioaccum PBT and v I cannot be exclude s e disposal of cata ccordance with al hipping name: N cking group: N 16 ERG Guide #	gna (Crustacea), EC50 /L/4 hours ulative potential: No PvB assessment: No d in the event of unpro- alog-size quantities of l local, state and fed Not Regulated lot applicable Not applicable	data available o data available ofessional handling or only. Federal regula leral regulations or o	disposal. tions may a contract with	a licensed che	mical disposal agency.

Section 16 Other information
GENERAL STORAGE CODE GREEN

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Section	1	

Identification

CHEMTREC 24 Hour Emergency

Innovating Science[®] by Aldon Corporation "cutting edge science for the classroom"

221 Rochester Street Avon, NY 14414-9409 (585) 226-6177

Phone Number (800) 424-9300 For laboratory and industrial use only. Not for drug, food or household use.

SODIUM ACETATE, ANHYDROUS Product Synonyms Acetic Acid, Sodium Salt Section 2 Hazards identification This substance or mixture has not been classified as hazardous according Supplemental information: to the Globally Harmonized System (GHS) of Classification and Labeling of Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective Chemicals. gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell. Signal word: None required Pictograms: No symbol required Target organs: None known GHS Classification: None required GHS Label information: Hazard statement: None required Precautionary statement: None required

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on	ingredients			
Chemical Name		CAS #	%	EINECS	
Sodium acetate		127-09-3	100%	204-823-8	
Section 4	First aid measures				

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8	Exposure controls / personal protection						
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)			
Exposure Linits.	Sodium acetate	Not established	Not established	Not established			

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

approved respirator.									
Section 9	Physical and chemical	properties							
Odor: Slight acetic a Odor threshold: Da pH: Data not availab	ata not available. ble. point: 324°C (615°F) not available	Flammability (s Explosion limits Vapor pressure Vapor density (<i>i</i>	e (= 1): Data not a olid/gas): Data not s: Lower / Upper: I (mm Hg): Data not Air = 1): Data not av r (Specific gravity): Soluble in water.	available. Data not available available ⁄ailable	Auto-ignitic Decomposi Viscosity: Molecular f	on temperature			
Section 10 Stability and reactivity									
-	Chemical stability: Stable Hazardous polymerization: Will not occur. Conditions to avoid: Excessive temperatures. Hazardous polymerization: Will not occur.								
Incompatible mater	ials: None listed.								
Hazardous decomp	osition products: Carbon a	nd sodium oxides.							
Section 11	Toxicological information	n							
Respiratory or skir Germ cell mutagen Carcinogenity: Da NTP: No componen IARC: No componen OSHA: No componer OSHA: No componer Reproductive toxico STOT-single exposs STOT-repeated exp Aspiration hazard: Potential health eff Inhalation: May be I Ingestion: May be h Skin: Causes mild s	Serious eye damage/irritation: Eyes-rabbit - 500 mg - irritating Respiratory or skin sensitization: Data not available Germ cell mutagenicity: Data not available Carcinogenity: Data not available NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a probable, possible or confirmed human carcinogen by IARC. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. Reproductive toxicity: Data not available STOT-single exposure: Data not available STOT-repeated exposure: Data not available Potential health effects: Inhalation: May be harmful if inhaled. Inhalation may cause irritation to respiratory tract. Ingestion: May be harmful if swallowed. Ingestion may cause abdominal pain and vomiting. Skin: Causes mild skin irritation. Eyes: Causes eye irritation.								
Section 12 Ecological information									
Toxicity to fish: Brachydanio rerio (fish, fresh water), LC0: ≥100 mg/L/96 hours Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea), EC50: >1000 mg/L/48 hours Toxicity to algae: No data available Persistence and degradability: No data available Mobility in soil: No data available PBT and vPvB assessment: No data available Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Section 13 Disposal considerations These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local									
	e different. Dispose of in ad	cordance with all l	ocal, state and fec	leral regulations or	contract with	a licensed che	mical disposal agency.		
Section 14	Transport information								
UN/NA number: Not applicable Shipping name: Not Regulated Hazard class: Not applicable Packing group: Not applicable Reportable Quantity: Marine pollutant: No Exceptions: Not applicable 2016 ERG Guide # Not applicable Reportable Quantity: Marine pollutant: No									
Section 15	Regulatory information								
A chemical is considere	d to be listed if the CAS number for	or the anhydrous form i	s on the Inventory list.						
Compon	ent	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65		
Sodium acetate		Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.		
Section 16	Other information								
dent determinations of	suitability and completeness of inf ency for Research on Cancer, OSH	ormation from all sourc	es to assure proper use	e of these materials and	the safety and h	ealth of employees	ered by them and must make indepe 5. NTP: National Toxicology Program osure, RE: Repeated Exposure,		

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Section 1	Identification

Innovating Science[®] by Aldon Corporation

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221 Rochester Street Avon, NY 14414-9409 (585) 226-6177

CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300

For laboratory and industrial use only. Not for drug, food or household use.

Product	SODIUM BICARBONATE, ANHYDROUS							
Synonyms	Baking Soda / Sodium Hydrogen Carbonate / Carbonic Acid Sodium (1:1)							
Section 2	Section 2 Hazards identification							
to the Glob Chemicals. Signal word Pictograms Target orga GHS Classi	Ince or mixture has not been classified as hazardous according ally Harmonized System (GHS) of Classification and Labeling of d: Not classified ns: Not classified ns: None known fication: Not classified information: Hazard statement(s): Not classified	Precautionary statement(s): Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.						

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on	ingredients			
Chemical Name		CAS #	%	EINECS	
Sodium bicarbonate		144-55-8	100%	205-633-8	
Section 4	First aid measures				

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This material is commonly used to extinguish fires.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Store away from acids.

Section 8	Exposure controls / personal protection						
Exposuro Limite:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)			
Exposure Limits:	Sodium bicarbonate	None established	None established	None established			

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9 Physical and chemical pr	operties	
 Appearance: Solid, white crystalline powder. Odor: No odor. Odor threshold: Data not available. pH: 8.2 (1% solution) Melting / Freezing point: Data not available Boiling point: Decomposes Flash point: Non combustible 	Evaporation rate (=1): Data not available Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): Negligible Vapor density (Air = 1): Data not available Relative density (Specific gravity): 2.16 @ 20°C Solubility(ies): 8.6 g/100 ml water at 20°C	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available Viscosity: Data not available. Molecular formula: NaHCO ₃ Molecular weight: 84.01

Section 10 Stability and reactivity

Chemical stability: Stable

ERG: Emergency Response Guidebook

Form 06/2015

Hazardous polymerization: Will not occur.

Conditions to avoid: High temperature causes decomposition to sodium carbonate, water and carbon dioxide.

Incompatible materials: Reacts with acids to yield acid salts, water and carbon dioxide.

Hazardous decomposition products: Gaseous carbon dioxide.

Section 11 Toxicological information

Acute toxicity: Oral-rat LD50: 4220-4400 mg/kg Skin corrosion/irritation: Skin-rabbit - not irritating Serious eye damage/irritation: Eye-rabbit - not irritating Respiratory or skin sensitization: Non sensitizing Germ cell mutagenicity: Data not available Carcinogenity: Data not available NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. Reproductive toxicity: Data not available STOT-single exposure: Data not available STOT-repeated exposure: Data not available Aspiration hazard: Data not available Potential health effects: Inhalation: Excessive dust may irritate respiratory tract. Ingestion: Ingestion may cause gastrointestinal disturbance if ingested. Skin: No hazard known. Eyes: Contact with eyes may cause very slight irritation. Signs and symptoms of exposure: See Potential health effects above. Additional information: RTECS #: VZ0950000 Section 12 Ecological information Toxicity to fish: Gambusia affinis (fish, freshwater) LC50: 7550 mg/l/24 hours Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea) EC50: 2350 mg/l/48 hours Toxicity to algae: Nitcheria linearis (Algae) LC50: 650 mg/l/5 day Persistence and degradability: No data available Bioaccumulative potential: No data available Mobility in soil: No data available PBT and vPvB assessment: No data available Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. **Disposal considerations** Section 13 These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency. Section 14 Transport information UN/NA number: Not applicable Shipping name: Not Regulated Hazard class: Not applicable Packing group: Not applicable Reportable Quantity: No Marine pollutant: No 2016 ERG Guide # Not applicable Exceptions: Not applicable Section 15 **Regulatory information** A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list. DSL RCRA code NDSL Component TSCA CERLCA (RQ) CA Prop 65 This product does not contain Sodium bicarbonate Listed Not listed Not listed Listed Not listed any chemicals known to the State of California to cause cancer or reproductive toxicity. Section 16 Other information The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure,

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Section 1

Identification

CHEMTREC 24 Hour Emergency

Innovating Science[®] by Aldon Corporation "cutting edge science for the classroom"

221 Rochester Street Avon, NY 14414-9409 (585) 226-6177 Phone Number (800) 424-9300 For laboratory and industrial use only.

Not for drug, food or household use.

Product	SODIUM CARBONATE, ANHYDROUS	
Synonyms	Soda Ash	
Section 2	Hazards identification	
Pictograms Target orga GHS Class Eye irrit. (Ca GHS Label	ans: None known.	Precautionary statement: P264: Wash hands thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337+P313: If eye irritation persists: Get medical attention.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known

Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3 Composition / in	nformation on ingredients			
Chemical Name	CAS #	%	EINECS	
Sodium carbonate	497-19-8	100%	207-838-8	
Section 4 First aid measure	res			

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Extinguishing Media: Use any media suitable for extinguishing supporting fire.

General information: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Sodium carbonate reacts with hydrated lime to form caustic soda. Special care should be taken where lime and sodium carbonate are handled in the same area.

Section 6 Accidental release measures

Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation. Recover for use if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water. Avoid runoff into storm sewers and ditches which lead to waterways.

Form 06/2015

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Read label on container before using. Do not wear contact lenses when working with chemicals. Keep container tightly closed. Keep out of reach of children. Use with adequate ventilation. Wash thoroughly after handling.

Handling: Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid ingestion. Do not inhale dusts. Wash thoroughly after handling. Remove and wash clothing before reuse.

-		way from incompatible substances.				
Section 8	Exposure controls / pers					
Exposure Limits:	Chemical Name Sodium carbonate	ACGIH (TLV) None established.		DSHA (PEL) ne established.		NIOSH (REL) None established.
	Is: Facilities storing or utilizing	this material should be equipped with lab coat or apron, appropriate protecti	an eyewash facility and	a safety shower		nguishing material. Personnel
Respiratory protect approved respirator.	ion: None should be needed i	n normal laboratory handling at room t	emperatures. If dusty c	conditions prevail,	work in fume	e hood or wear a NIOSH/MSHA-
Section 9	Physical and chemical p	roperties				
Appearance: Solid, Odor: No odor. Odor threshold: Da pH: Data not availab Melting / Freezing p Boiling point: Deco Flash point: Not flar	ta not available. le. oint: 864°C (1587°F) mposes	Evaporation rate (=1): Data not Flammability (solid/gas): Data not Explosion limits: Lower / Upper: Vapor pressure (mm Hg): Data not Vapor density (Air = 1): Data not Relative density (Specific gravity): 2.53 Solubility(ies): 17% @ 20°C in wa	t available. Not flammable ot available available 33		temperature n temperatu ta not availat nula: Na ₂ CC	: Data not available ire: 1000°C (1832°F) ble.
Section 10	Stability and reactivity	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
Chemical stability:	Stable	Hazardous polymerization	Will not occur.			
Incompatibilities wir be produced.	•	ygroscopic material, avoid moisture. use decompostion liberating gaseous c oxide.	arbon dioxide. When m	nixed with lime du	ist and water	, corrosive and caustic soda ma
Section 11	Toxicological informatio	n				
Serious eye damage Respiratory or skin Germ cell mutageni Carcinogenity: Data NTP: No component IARC: No component OSHA: No component Reproductive toxici STOT-single expose STOT-repeated expo Aspiration hazard: Potential health effe Inhalation: May be harmfu Eyes: Causes eye in Signs and symptom Additional informati	of this product present at leve t of this product present at leve t of this product present at leve t of this product present at leve ty: Data not available ure: Data not available Data not available potent and available etct: armful if inhaled. Causes resp e irritation of the digestive trace il if absorbed through skin. Ca ritation.	able Is greater than or equal to 0.1% is iden els greater than or equal to 0.1% is iden vels greater than or equal to 0.1% is iden iratory tract irritation. t. May be harmful if swallowed. uses skin irritation. sation, cough, wheezing, laryngitis, sho	ntified as probable, pos entified as a carcinogen	sible or confirmed	d human carc	
Toxicity to daphnia Toxicity to algae: No Persistence and de Mobility in soil: No	and other aquatic invertebra o data available gradability: No data available data available	ates: EC50 - Daphnia magna (Water fle	o data available No data available	disposal.		
Section 13	Disposal considerations					
		e disposal of catalog-size quantities cordance with all local, state and fe				
Section 14	Transport information		-			
UN/NA number: Hazard class: Not Exceptions: Not Section 15	applicable Pac applicable 201 Regulatory information	pping name: Not Regulatedking group: Not applicable6 ERG Guide # Not applicable	Reportable Qua	ntity: No	Ma	arine pollutant: No
		r the anhydrous form is on the Inventory list		D 0'	NEO	
Compone Sodium carbonate	ent	Listed Not listed	RCRA code Not listed	DSL Not listed	NDSL Not listed	CA Prop 65 This product does not contain any chemicals known to the State of California to cause cancer or reproductive twicity
Section 16	Other information					reproductive toxicity.
The information contain dent determinations of s	ed herein is furnished without war suitability and completeness of info ncy for Research on Cancer, OSH	ranty of any kind. Employers should use thi rrmation from all sources to assure proper u A: Occupational Safety and Health Administ	se of these materials and t	the safety and healt	h of employee:	s. NTP: National Toxicology Progra

SAFETY DATA SHEET

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CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only. Not for drug, food or household use.

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Synonyms Common Salt / Rock Salt Section 2 Hazards identification This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Supplementary information: Do not get in eyes, on skin, or on clothing. W	
This substance or mixture has not been classified as hazardous according Supplementary information:	
Chemicals. Signal word: Not classified Precautionary statement(s): Not classified Precautionary statement(s): Not classified Precautionary statement(s): Not classified	

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on	ingredients			
Chemical Name		CAS #	%	EINECS	
Sodium chloride		7647-14-5	100%	231-598-3	
Section 4	First aid measures				

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Store away from acids.

Section 8	Exposure controls / personal prot	ection		
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
Exposure Linits.	Sodium chloride	None established	None established	None established

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9 Physical and chemical pro	operties	
Appearance: Solid, white crystals. Odor: No odor. Odor threshold: Data not available. pH: 4.0-9.0 Melting / Freezing point: 801°C (>1473°F) Boiling point: 1465°C (2669°F) Flash point: Non combustible	Evaporation rate (=1): Data not available Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): 2.4 Vapor density (Air = 1): Data not available Relative density (Specific gravity): 2.16 @ 25°C Solubility(ies): 1 g/2.8 ml water at 25°C	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available Viscosity: Data not available. Molecular formula: NaCl Molecular weight: 58.45
Section 10 Stability and reactivity		

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Wet conditions can cause caking and/or corrosion.

Incompatible materials: Strong acids

Hazardous decomposition products: Electrolysis can produce chlorine gas.

Section 11 **Toxicological information**

Acute toxicity: Oral-rat LD50: 3000 mg/kg

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available Germ cell mutagenicity: Data not available

Carcinogenity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation of dust leaves salty taste with mild irritation to mucous membrane in nose and throat.

Ingestion: Ingestion of large amounts (more than 0.1 pound) may cause vomiting.

Skin: Contact may cause very slight irritation.

Eyes: Contact may cause very slight irritation.

Signs and symptoms of exposure: Gross overexposure over a long period of time, results in dehydration.

Additional information: RTECS #: VZ4725000

Section 12 Ecological information

Toxicity to fish: Lepomis macrochirus (fish, freshwater) LC50: 9,675 mg/l/96 hours Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea) EC50: 6,175 mg/l/16 hours Toxicity to algae: Anabaena variabilis (Algae) LC50: 23,565 mg/l/4 day

Persistence and degradability: No data available Bioaccumulative potential: No data available

Mobility in soil: No data available PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Disposal considerations Section 13

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14 Transport inform	nation			
UN/NA number: Not applicable Hazard class: Not applicable Exceptions: Not applicable	Shipping name: Not Regulated Packing group: Not applicable 2016 ERG Guide # Not applicable	Reportable Qua	antity: No	
Section 15 Regulatory infor	mation			
A chemical is considered to be listed if the CAS	number for the anhydrous form is on the Inventory list.			

NDSL Component TSCA CERLCA (RQ) RCRA code DSL CA Prop 65 This product does not contain Sodium chloride Listed Not listed Not listed Listed Not listed any chemicals known to the State of California to cause cancer or reproductive toxicity.

Section 16 Other information

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook Form 06/2015

Marine pollutant: No

SAFETY DATA SHEET

CORROSIVE STORAGE CODE WHITE

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Identification

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CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300

For laboratory and industrial use only. Not for drug, food or household use.

Product	SODIUM HYDROXIDE, 0.1 MOLAR (0.1N) SOLUTION	
Synonyms	Sodium Hydroxide, Water Solution (0.1M)	
Section 2	Hazards identification	
Target organ GHS Classifi Skin irritation Eye Irritation GHS Label ir H316: Cause	None required s: Respiratory tract, gastrointestinal tract, eyes, skin.	Precautionary statement: P264: Wash hands thoroughly after handling. P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P332+P313: If skin irritation occurs: Get medical attention. P337+P313: If eye irritation persists: Get medical attention.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on	ingredients			
Chemical Name		CAS #	%	EINECS	
Water Sodium hydroxide		7732-18-5 1310-73-2	99.6% 0.4%	231-791-2 215-185-5	
Section 4	First aid measures				

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: CAUSES MILD IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Dry chemical, water spray, alcohol foam. Can react with carbon dioxide to form sodium carbonate.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: In fire conditions, water may evaporate from this solution which may cause hazardous decomposition products to be formed as dust or fume. Contact with metals can generate hydrogen gas.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, well-ventilated area away from incompatible substances.

Section 8	Exposure controls / personal prot	ection		
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)
Exposure Linits.	Sodium hydroxide	STEL: C 2 mg/m ³	TWA: 2 mg/m ³	STEL: C 2 mg/m ³

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9 Appearance: Clea							
Appearance: Clea	Physical and chemical	properties					
Odor: No odor. Odor threshold: N pH: Data not availa Melting / Freezing	able. point: ~ 0°C (~ 32°F) [water] 00°C (212°F) [water]	Explosion limits: Vapor pressure (Vapor density (A	id/gas): Not applica Lower / Upper: No mm Hg): 14 [water] ir = 1): 0.7 [water] (Specific gravity): 1	ot applicable	Auto-igniti Decompos Viscosity: Molecular	on temperature	e
Section 10	Stability and reactivity						
Chemical stability Conditions to avo	r: Stable id: Can react with carbon diox		polymerization: W bonate.	'ill not occur.			
Incompatible mate	erials: Metals, acids, organic o	compounds, organic nit	ro compounds.				
Hazardous decom	position products: Sodium o	oxide. Reacts with met	als to form flammable	e and explosive hy	drogen gas.		
Section 11	Toxicological information	on					
Carcinogenity: D NTP: No compone IARC: No compone OSHA: No compore Reproductive toxi STOT-single expo STOT-repeated expo STOT-repeated expo Aspiration hazard Potential health e Inhalation: No data Ingestion: No data Skin: Causes sirita Eyes: Causes slig Signs and sympto Specific data is not	nt of this product present at levent of the product present present of the product present prese	vels greater than or e evels greater than or e ed contact. of our knowledge the te procedures to minim	ual to 0.1% is identifi qual to 0.1% is identi chemical, physical an	ed as probable, po fied as a carcinoge d toxicological pro	ssible or confir n or potential d	med human carr carcinogen by OS	SHA.
Section 12	Ecological information						
Section 12 Toxicity to fish: L Toxicity to daphni Toxicity to algae: Persistence and d Mobility in soil: N Other adverse effe	C50 - Gambusia affinis (Mosqu a and other aquatic invertebr No data available legradability: No data availabl lo data available ects: An environmental hazard	eates: Immobilization E Bioaccumula PBT and vPv cannot be excluded in	C50 - Daphnia - 40.3 tive potential: No d B assessment: No d	38 mg/l - 48 h [Sod ata available data available			
Section 12 Toxicity to fish: L Toxicity to daphni Toxicity to algae: Persistence and d Mobility in soil: N Other adverse effet Section 13	C50 - Gambusia affinis (Mosqu a and other aquatic invertebr No data available legradability: No data availabl lo data available ects: An environmental hazard Disposal consideration	rates: Immobilization E le Bioaccumula PBT and vPv I cannot be excluded ir s	C50 - Daphnia - 40.3 tive potential: No d B assessment: No o h the event of unprofe	38 mg/l - 48 h [Sod ata available data available essional handling o	r disposal.		
Section 12 Toxicity to fish: L Toxicity to daphni Toxicity to algae: Persistence and d Mobility in soil: N Other adverse effe Section 13 These disposal g regulations may b	C50 - Gambusia affinis (Mosqu a and other aquatic invertebr No data available legradability: No data available lo data available ects: An environmental hazard Disposal consideration uidelines are intended for th be different. Dispose of in a	rates: Immobilization E le Bioaccumula PBT and vPv cannot be excluded ir s e disposal of catalog	C50 - Daphnia - 40.3 tive potential: No d B assessment: No d he event of unprofe g-size quantities on	8 mg/l - 48 h [Sod ata available data available essional handling o ly. Federal regul	r disposal. ations may a	pply to empty c	container. State and/or local emical disposal agency.
Section 12 Toxicity to fish: L Toxicity to daphni Toxicity to algae: Persistence and d Mobility in soil: N Other adverse effe Section 13 These disposal g regulations may b Section 14	C50 - Gambusia affinis (Mosqu a and other aquatic invertebr No data available legradability: No data available lo data available ects: An environmental hazard Disposal consideration uidelines are intended for th be different. Dispose of in av Transport information	rates: Immobilization E Bioaccumula PBT and vPv I cannot be excluded in s e disposal of catalog ccordance with all lo	C50 - Daphnia - 40.3 tive potential: No d B assessment: No d h the event of unprofe g-size quantities on cal, state and fede	8 mg/l - 48 h [Sod ata available data available essional handling o ly. Federal regul	r disposal. ations may a	pply to empty c	container. State and/or local emical disposal agency.
Section 12 Toxicity to fish: L Toxicity to daphni Toxicity to algae: Persistence and d Mobility in soil: N Other adverse effe Section 13 These disposal g regulations may b	C50 - Gambusia affinis (Mosqu a and other aquatic invertebr No data available legradability: No data available lo data available ects: An environmental hazard Disposal consideration uidelines are intended for th be different. Dispose of in ar Transport information Not applicable Sh	rates: Immobilization E le Bioaccumula PBT and vPv cannot be excluded ir s e disposal of catalog	C50 - Daphnia - 40.3 tive potential: No d B assessment: No d the event of unprofe g-size quantities on cal, state and fede Regulated applicable	8 mg/l - 48 h [Sod ata available data available essional handling o ly. Federal regul	r disposal. ations may a contract with	pply to empty c a licensed che	container. State and/or local emical disposal agency. arine pollutant: No
Section 12 Toxicity to fish: L Toxicity to daphni Toxicity to algae: Persistence and d Mobility in soil: N Other adverse effor Section 13 These disposal g regulations may b Section 14 UN/NA number: Hazard class: N	C50 - Gambusia affinis (Mosqu a and other aquatic invertebr No data available legradability: No data available lo data available ects: An environmental hazard Disposal consideration uidelines are intended for th be different. Dispose of in ar Transport information Not applicable Sh	rates: Immobilization E Bioaccumula PBT and vPv I cannot be excluded ir s e disposal of catalog ccordance with all lo ipping name: Not cking group: Not 16 ERG Guide # N	C50 - Daphnia - 40.3 tive potential: No d B assessment: No d the event of unprofe g-size quantities on cal, state and fede Regulated applicable	³⁸ mg/l - 48 h [Sod ata available data available essional handling o ly. Federal regul ral regulations or	r disposal. ations may a contract with	pply to empty c a licensed che	emical disposal agency.
Section 12 Toxicity to fish: L Toxicity to daphni Toxicity to algae: Persistence and d Mobility in soil: N Other adverse effe Section 13 These disposal g regulations may b Section 14 UN/NA number: Hazard class: N Exceptions: Ne Section 15 A chemical is conside	C50 - Gambusia affinis (Mosqu a and other aquatic invertebr No data available legradability: No data available lo data available ects: An environmental hazard Disposal consideration uidelines are intended for th be different. Dispose of in ar Transport information Not applicable Sh Not applicable Par ot applicable 20' Regulatory information red to be listed if the CAS number f	rates: Immobilization E Bioaccumula PBT and vPv I cannot be excluded in s e disposal of cataloo ccordance with all lo ipping name: Not cking group: Not 16 ERG Guide # N	C50 - Daphnia - 40.3 tive potential: No d B assessment: No o n the event of unprofe g-size quantities on cal, state and fede Regulated applicable ot applicable on the Inventory list.	8 mg/l - 48 h [Sod ata available data available essional handling o ly. Federal regul ral regulations or Reportable Qua	ations may a contract with	pply to empty c a licensed che Ma	arine pollutant: No
Section 12 Toxicity to fish: L Toxicity to daphni Toxicity to algae: Persistence and d Mobility in soil: N Other adverse effe Section 13 These disposal g regulations may b Section 14 UN/NA number: Hazard class: N Exceptions: Ne Section 15	C50 - Gambusia affinis (Mosqu a and other aquatic invertebr No data available legradability: No data available lo data available ects: An environmental hazard Disposal consideration uidelines are intended for th be different. Dispose of in ar Transport information Not applicable Sh Not applicable Par ot applicable 20' Regulatory information red to be listed if the CAS number f	rates: Immobilization E Bioaccumula PBT and vPv I cannot be excluded in s e disposal of catalog ccordance with all lo ipping name: Not cking group: Not 16 ERG Guide # N	C50 - Daphnia - 40.3 tive potential: No d B assessment: No o the event of unprofe g-size quantities on cal, state and fede Regulated applicable ot applicable	³⁸ mg/l - 48 h [Sod ata available data available essional handling o ly. Federal regul ral regulations or	r disposal. ations may a contract with	pply to empty c a licensed che	emical disposal agency. arine pollutant: No CA Prop 65
Section 12 Toxicity to fish: L Toxicity to daphni Toxicity to algae: Persistence and d Mobility in soil: N Other adverse effe Section 13 These disposal g regulations may b Section 14 UN/NA number: Hazard class: N Exceptions: Ne Section 15 A chemical is consider	C50 - Gambusia affinis (Mosqu a and other aquatic invertebr No data available legradability: No data available lo data available ects: An environmental hazard Disposal consideration uidelines are intended for th be different. Dispose of in a Transport information Not applicable Sh Not applicable Par ot applicable 20' Regulatory information red to be listed if the CAS number finent	rates: Immobilization E Bioaccumula PBT and vPv I cannot be excluded in s e disposal of cataloo ccordance with all lo ipping name: Not cking group: Not 16 ERG Guide # N or the anhydrous form is TSCA	C50 - Daphnia - 40.3 tive potential: No d B assessment: No o n the event of unprofe g-size quantities on cal, state and fede Regulated applicable ot applicable on the Inventory list.	8 mg/l - 48 h [Sod ata available data available essional handling o ly. Federal regul ral regulations or Reportable Qua	ations may a contract with	pply to empty c a licensed che Ma	arine pollutant: No

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

SAFETY DATA SHEET

GENERAL STORAGE CODE GREEN

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Identification

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CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only.

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Product SUCROSE	
Synonyms Cane Sugar / Beet Sugar	
Section 2 Hazards identification	
This substance or mixture has not been classified as hazardous according to the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals. Signal word: None required Pictograms: No symbol required Target organs: None known	Supplemental information: Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.
GHS Classification: None required GHS Label information: Hazard statement: None required Precautionary statement: None required	
Hazards not otherwise classified:	

Health hazards not otherwise classified (HHNOC) - Combustible dust Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on ingredients					
Chemical Name		CAS #	%	EINECS		
Sucrose		57-50-1	100%	200-334-9		
Section 4	First aid measures					
Section 4	First alu measures					

INGESTION: Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use any media suitable for extinguishing supporting fire

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Dust dispersed in air is capable of creating a dust explosion when exposed to an ignition source. Avoid dispersion of dust in air.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for use if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8	Exposure controls / personal protection					
Exposure Limite:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Limits:	Sucrose	TWA: 10 mg/m ³ (A4)	TWA: 15 mg/m ³	TWA: 10 mg/m ³		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

approved respirator.								
Section 9	Physical and chemical	properties						
Appearance: Solid. Odor: No odor. Odor threshold: Da pH: Data not availal Melting / Freezing p Boiling point: Deco Flash point: Not ap	ata not available. ble. point: 185°C (365°F) poposes	Flammability (s Explosion limit Vapor pressure Vapor density (Relative density (te (= 1): Not applic solid/gas): Data not s: Lower / Upper: I e (mm Hg): Negligibl Air = 1): Data not av Specific gravity): 1.58 Soluble in water	available. Not applicable e	Auto-ignitio Decomposi Viscosity: Molecular f	on temperature		Э
Section 10	Stability and reactivity							
Incompatible mater			us polymerization:	Will not occur.				
Section 11	Toxicological informati	on						
Respiratory or skir Germ cell mutagen Carcinogenity: Da NTP: No componen IARC: No componen OSHA: No compone Reproductive toxic STOT-single expos STOT-repeated exp Aspiration hazard: Potential health eff Inhalation: Inhalatio Ingestion: Not expected Eyes: Contact with Signs and symptor	t of this product present at levent of the substance or mixtup present at levent of the substance or mixtup present at levent of the substance of the substance of the substance or mixtup present at levent of the substance of th	ailable rels greater than or e vels greater than or evels greater than or re is classified as sp tion. tion.	equal to 0.1% is iden equal to 0.1% is iden ecific target organ to	ified as probable, po ntified as a carcinoge	ossible or confir en or potential c	med human card arcinogen by OS	SHA.	
	tion: RTECS #: WN650000	0						
Toxicity to algae: N Persistence and de Mobility in soil: No	and other aquatic inverteb o data available gradability: No data availab	le Bioaccumu PBT and vF	lative potential: No PvB assessment: N	o data available	or disposal.			
Section 13	Disposal consideration	IS						
regulations may be	idelines are intended for the different. Dispose of in a							
Section 14	Transport information							
UN/NA number: Hazard class: N Exceptions: No	ot applicable Pa	hipping name: N acking group: N 16 ERG Guide #	ot applicable	Reportable Qu	iantity: No	Ma	arine pollutant:	No
Section 15	Regulatory information							
	d to be listed if the CAS number		•					
Compon Sucrose	ent	Listed	CERLCA (RQ) Not listed	RCRA code Not listed	DSL Listed	NDSL Not listed	CA Pro This product does n any chemicals know of California to caus reproductive toxicity	ot contain /n to the State e cancer or
Section 16	Other information							
dent determinations of	ned herein is furnished without was suitability and completeness of in ency for Research on Cancer, OS oonse Guidebook.	formation from all source	es to assure proper use	of these materials and	d the safety and h	ealth of employees	s. NTP: National Toxi	cology Program,

Form 06/2015

Section 1	Identification		Page E1 of E2
	Vating Science [®] by Aldon Corporation Itting edge science for the classroom"	221 Rochester Street Avon, NY 14414-9409 (585) 226-6177	CHEMTREC 24 Hour Emergency Phone Number (800) 424-9300 For laboratory and industrial use only. Not for drug, food or household use.
Product	UNIVERSAL PH INDICATOR		
Synonyms	Universal Indicator		
Section 2	Hazards identification		
Pictograms Target orga GHS Class Flammable Acute toxici Skin irritatio Eye irritatio STOT-SE ((GHS Label H225: Highl H319: Caus H319: Caus H331: Toxic H336: May	liquid (Category 2) ty, inhalation (Category 3) in (Category 2) in (Category 2B) Category 2) Category 3) information: Hazard statement: y flammable liquid and vapour. ses skin irritation. ses serious eye irritation.	92 92 92 92 92 92 92 92 92 92 92 92 92 9	 recautionary statement: 210: Keep away from heat/sparks/open flames/hot surfaces. No smoking. 240: Ground/bond container and receiving equipment. 241: Use explosion-proof electrical/ventilating/lighting equipment. 242: Use only non-sparking tools. 243: Take precautionary measures against static discharge. 260: Do not breathe mist/vapours/spray. 264: Wash hands thoroughly after handling. 271: Use only outdoors or in a well-ventilated area. 280: Wear protective gloves/protective clothing/eye protection/face protection. 305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. emove contact lenses, if present and easy to do. Continue rinsing. 303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated othing. Rinse skin with water/shower. 304+P340: IF INHALED: Remove person to fresh air and keep comfortable for eathing. 312: Call a POISON CENTER or doctor if you feel unwell. 332+P313: If skin irritation occurs: Get medical attention. 362+P364: Take off contaminated clothing and wash it before reuse. 403+P233: Store in a well-ventilated place. Keep container tightly closed. 501: Dispose of contents/container to a licensed chemical disposal agency in scordance with local/regional/national regulations.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information of	n ingredients			
Chemical Name		CAS #	%	EINECS	
Ethyl alcohol		64-17-5	64.50 - 65.11%	200-578-6	
Water		7732-18-5	23.96%	231-791-2	
Isopropyl alcohol		67-63-0	6.83%	200-661-7	
Methanol		67-56-1	3.03 - 3.26%	200-659-6	
Methyl isobutyl ket	one	108-10-1	0.68 - 0.76%	203-550-1	
Bromothymol blue		76-59-5	0.06%	200-971-2	
Phenolphthalein		77-09-8	0.06%	201-004-7	
Methyl red		845-10-3	0.02%	212-682-9	
Thymol blue		62625-21-2	0.005%	263-650-6	

Section 4 First aid measures

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. CAUSES RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: CAUSES EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. CAUSES SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Vapors formed from this product are heavier than air and may travel along the ground to a distant source of ignition and flash back instantly. Flame may not be visible in daylight.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Remove all sources of ignition. Absorb with inert dry material, sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale vapors, spray or mist. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances. Keep away from ignition sources.

Section 8	Exposure controls / personal protection					
Exposuro Limite:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
Exposure Limits:	Ethanol	STEL: 1000 ppm / 1880 mg/m ³ (A3)	TWA: 1000 ppm / 1900 mg/m ³	TWA: 1000 ppm / 1900 mg/m ³		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If misty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9 Appearance: Clear, Odor: Mild characte Odor threshold: Da	Physical and chamical n						
Odor: Mild characte	Physical and chemical p	roperties					
Boiling point: 75-80	ristic odor. ta not available. le. oint: -114°C (-173°F)*	Flammability (Explosion limi Vapor pressure Vapor density Relative densit	te (Butyl acetate = 1): solid/gas): Data not a s: Lower / Upper: 4. e (mm Hg): 44.6 @ 20 (Air = 1): 1.59* y (Specific gravity): (Soluble in water.	vailable. 0%(V) / 20.0%(V)*)°C (68°F)*	Auto-igniti Decompos Viscosity: Molecular		: 400°C (752°F)* re: Data not available. le.
Section 10	Stability and reactivity						
ncompatible mater	Stable : Excessive temperatures, he ials: Strong oxidizers, inorgan osition products: Oxides of o	at, sparks, open fla ic acids and halog					
Section 11	Toxicological information	ı					
Carcinogenity: Dat NTP: No component JARC classified: Gro OSHA: No compone CA Prop 65: MWAR and birth defects or of Reproductive toxic STOT-single expos STOT-repeated exp Aspiration hazard: Potential health effi Inhalation: Inhalatio Ingestion: Ingestion Skin: Contact with s Eyes: Contact with s Syes: Contact with s	of this product present at level up 3: Not classifiable as to its of nt of this product present at level NING! :This product can exposi- other reproductive harm. ty: Data not available ure: The substance or mixture osure: Data not available Data not available	arcinogenicity to h els greater than o se you to Phenolph is classified as sp ness, nausea, vom decreased reaction n prolonged conta l health effects abo	umans. [Isopropanol] equal to 0.1% is ident thalein, Methanol and ecific target organ toxi iting, inability to conce n, euphoria, nausea, v ct.	ified as a carcinoge Methyl isobutyl keto cant, single exposur ntrate and irritation	n or potential one, which are e, category 3 of the throat.	carcinogen by OS known to the Sta with narcotic effe	ate of California to cause cancer
	Ecological information						
Section 12	corhynchus mykiss (fish, fresh		200 mg/l/24 hours [Eth	anall			
Toxicity to fish: On Toxicity to daphnia Toxicity to algae: C Persistence and de Mobility in soil: No	hlorella pyrenoidosa (Algae), E gradability: No data available	C50 = 9,310 mg/l/ Bioaccumu PBT and v	llative potential: No o PvB assessment: No	: 10,800 mg/l/24 hou bsolute] data available data available	-	9.8% pure]	
Foxicity to fish: On Foxicity to daphnia Foxicity to algae: C Persistence and de Mobility in soil: No Other adverse effec Section 13	hlorella pyrenoidosa (Algae), E gradability: No data available data available ts: An environmental hazard o Disposal considerations	C50 = 9,310 mg/// Bioaccum PBT and vi annot be excluded	growth rate [Éthanol, a Ilative potential: No (PvB assessment: No I in the event of unprof	: 10,800 mg/l/24 hor bsolute] Jata available data available essional handling of	disposal.		
Foxicity to fish: On Foxicity to daphnia Foxicity to algae: C Persistence and de Mobility in soil: No Other adverse effect Section 13 These disposal gui	hlorella pyrenoidosa (Algae), E gradability: No data available data available ts: An environmental hazard o Disposal considerations	C50 = 9,310 mg/l/ Bioaccum PBT and vi annot be excluded disposal of cata	growth rate [Éthanol, a Ilative potential: No of PvB assessment: No I in the event of unprof og-size quantities of	: 10,600 mg/l/24 hor bsolute] data available data available essional handling or nly. Federal regula	⁻ disposal. ations may a	pply to empty c	ontainer. State and/or local mical disposal agency.
Foxicity to fish: On Foxicity to daphnia Foxicity to algae: C Persistence and de Mobility in soil: No Other adverse effec Section 13 These disposal gui regulations may be Section 14 UN/NA number: Hazard class: 3	hlorella pyrenoidosa (Algae), E gradability: No data available data available ts: An environmental hazard of Disposal considerations delines are intended for the e different. Dispose of in acc Transport information UN1170 Shipping	C50 = 9,310 mg/// Bioaccum PBT and vi annot be excluded disposal of cata cordance with all name: Ethano group: II	growth rate [Ethanol, a lative potential: No of PvB assessment: No in the event of unprof og-size quantities of local, state and fede of solution Reportat	: 10,600 mg/l/24 hor bsolute] data available data available essional handling or nly. Federal regula	disposal. ations may a contract with	pply to empty c	
Foxicity to fish: On Foxicity to daphnia Foxicity to algae: C Persistence and de Mobility in soil: No Other adverse effec Section 13 These disposal gui regulations may be Section 14 UN/NA number: Hazard class: 3	hlorella pyrenoidosa (Algae), E gradability: No data available data available ts: An environmental hazard of Disposal considerations delines are intended for the e different. Dispose of in acc Transport information UN1170 Shipping Packing	C50 = 9,310 mg/// Bioaccum PBT and vi annot be excluded disposal of cata cordance with all name: Ethano group: II	growth rate [Ethanol, a lative potential: No of PvB assessment: No in the event of unprof og-size quantities of local, state and fede of solution Reportat	: 10,800 mg/l/24 hor bsolute] data available data available essional handling or hly. Federal regula ral regulations or	disposal. ations may a contract with	pply to empty c	mical disposal agency.
Foxicity to fish: On Foxicity to daphnia Foxicity to daphnia Foxicity to algae: C Persistence and de Mobility in soil: No Other adverse effec Section 13 These disposal gui regulations may be Section 14 JN/NA number: Hazard class: 3 Exceptions: Lim Section 15 A chemical is considere	hlorella pyrenoidosa (Algae), E gradability: No data available data available ts: An environmental hazard of Disposal considerations delines are intended for the e different. Dispose of in acc Transport information UN1170 Shipping Packing ited quantity equal to or less Regulatory information d to be listed if the CAS number for	C50 = 9,310 mg//, Bioaccum PBT and vi annot be excluded disposal of cata cordance with all name: Ethano group: II s than 1 L the anhydrous form	growth rate [Ethanol, a lative potential: No VB assessment: No l in the event of unprof og-size quantities or local, state and fede of solution Reportat 2016 ERC is on the Inventory list.	: 10,800 mg/l/24 hor bsolute] data available data available essional handling or hly. Federal regula eral regulations or ble Quantity: 5,0 3 Guide # 127	disposal. ations may a contract with 00 lbs (227(ipply to empty c n a licensed che) kg) Ma	mical disposal agency. Irine pollutant: No
Foxicity to fish: On Foxicity to daphnia Foxicity to daphnia Foxicity to algae: C Persistence and de Mobility in soil: No Other adverse effec Section 13 These disposal gui regulations may be Section 14 UN/NA number: Hazard class: 3 Exceptions: Lim Section 15 A chemical is considere Compone	hlorella pyrenoidosa (Algae), E gradability: No data available data available ts: An environmental hazard of Disposal considerations delines are intended for the e different. Dispose of in acc Transport information UN1170 Shipping Packing ited quantity equal to or less Regulatory information d to be listed if the CAS number for	C50 = 9,310 mg/// Bioaccumu PBT and vi annot be excluded disposal of cata cordance with all name: Ethano group: II s than 1 L the anhydrous form TSCA	growth rate [Ethanol, a lative potential: No of VB assessment: No l in the event of unprof og-size quantities or local, state and fede of solution Reportat 2016 ER(is on the Inventory list. CERLCA (RQ)	 10,800 mg/l/24 hor bsolute] data available data available essional handling or hly. Federal regulations or be Quantity: 5,0 Guide # 127 RCRA code 	disposal. ations may a contract with 00 lbs (2270	pply to empty c a licensed che) kg) Ma NDSL	emical disposal agency. arine pollutant: No CA Prop 65
Foxicity to fish: On Foxicity to daphnia Foxicity to daphnia Foxicity to algae: C Persistence and de Mobility in soil: No Other adverse effec Section 13 These disposal gui regulations may be Section 14 JN/NA number: Hazard class: 3 Exceptions: Lim Section 15 A chemical is considere	hlorella pyrenoidosa (Algae), E gradability: No data available data available ts: An environmental hazard of Disposal considerations delines are intended for the e different. Dispose of in acc Transport information UN1170 Shipping Packing ited quantity equal to or less Regulatory information d to be listed if the CAS number for	C50 = 9,310 mg//, Bioaccum PBT and vi annot be excluded disposal of cata cordance with all name: Ethano group: II s than 1 L the anhydrous form	growth rate [Ethanol, a lative potential: No VB assessment: No l in the event of unprof og-size quantities or local, state and fede of solution Reportat 2016 ERC is on the Inventory list.	: 10,800 mg/l/24 hor bsolute] data available data available essional handling or hly. Federal regula eral regulations or ble Quantity: 5,0 3 Guide # 127	disposal. ations may a contract with 00 lbs (227(ipply to empty c n a licensed che) kg) Ma	mical disposal agency.

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook.

SAFETY DATA SHEET

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Identification	
luentincation	

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Product UI	IREA	
Synonyms Ca	Carbamide Resin	
Section 2	Hazards identification	
to the Globally Chemicals. Signal word: N Pictograms: No Target organs: GHS Classificat GHS Label infor		Supplementary information: Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell.

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Not Known Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on ingredients					
Chemical Name		CAS #	%	EINECS		
Urea		57-13-6	100%	200-315-5		
Section 4	First aid measures		1			

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: MAY BE HARMFUL IF INHALED. MAY CAUSE RESPIRATORY TRACT IRRITATION. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

EYE CONTACT: MAY CAUSE EYE IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY BE HARMFUL IF ABSORBED THROUGH SKIN. MAY CAUSE SKIN IRRITATION. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Carbon dioxide, dry chemical, dry sand, alcohol foam.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Recover for reuse if not contaminated. Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Precautions for Safe Handling: Read label on container before using. Do not wear contact lenses when working with chemicals. Keep out of reach of children. Avoid contact with eyes, skin and clothing. Do not inhale dusts. Use with adequate ventilation. Avoid ingestion. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
	Urea	Not established	Not established	Not established		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

approved respirator.								
Section 9 Physical and chemical properties								
Appearance: Solid, white crystals. Evaporation rate (=1): Data not available Partition coefficient: (n-octanol / water): Log Pow Odor: Ammonia-like odor. Flammability (solid/gas): Data not available. Partition coefficient: (n-octanol / water): Log Pow Odor threshold: Data not available. Explosion limits: Lower / Upper: Data not available. Decomposition temperature: Data not available. PH: Data not available. Vapor pressure (mm Hg): 1.2105 @ 25°C Viscosity: Data not available. Melting / Freezing point: 132°C (270°F) Relative density (Specific gravity): 1.335 Molecular formula: NH ₂ CONH ₂ Relative density (solid/ges): Solubility(ies): Solubility (solid gravity): 1.335 Molecular weight: 60.06	r: -3.0/-1.54							
ection 10 Stability and reactivity								
Chemical stability: Stable Hazardous polymerization: Will not occur. Conditions to avoid: Excessive temperatures, and moisture. Incompatible materials: Strong oxidizing agents, sodium hypochlorite, sodium nitrate, calcium hypochlorite, nitrosyl perchlorate, gallium perchlorate, diphosphorus pentachloride. Hazardous decomposition products: Oxides of carbon, ammonia, cyanuric acid, oxides of nitrogen.								
Section 11 Toxicological information								
Acute toxicity: Oral-rat LD50: 8471 mg/kg ; Dermal-rat LD50: 8200 mg/kg Skin corrosion/irritation: Data not available Serious eye damage/irritation: Data not available Respiratory or skin sensitization: Data not available Gern cell mutagenicity: Data not available Carcinogenity: Data not available Carcinogenity: Data not available NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or confirmed human carcinogen by IARC. OSH4: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA. Reproductive toxicity: Data not available STOT-single exposure: Data not available STOT-repeated exposure: Data not available Aspiration hazard: Data not available Potential health effects: Inhalation: Inhalation: Inhalation, keadache, nausea, vomiting. Skin: Contact with skin causes irritation. Eyes: Contact with eyes causes irritation. Signs and symptoms of exposure: Exercise appropriat								
Section 12 Ecological information								
Toxicity to fish: Rasbora heteromorpha (Fish, marine) LC50: 12,000 mg/L/96 hours Toxicity to daphnia and other aquatic invertebrates: Daphnia magna (Crustacea), EC50 = >10,000 mg/l/24 hours Toxicity to algae: No data available Persistence and degradability: No data available Mobility in soil: No data available PBT and vPvB assessment: No data available Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Section 13 Disposal considerations								
These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency. Section 14 Transport information								
UN/NA number: Not applicable Shipping name: Not Regulated Hazard class: Not applicable Packing group: Not applicable Reportable Quantity: No Marine pollutant: No Exceptions: Not applicable 2016 ERG Guide # Not applicable Reportable Quantity: No Marine pollutant: No								
Section 15 Regulatory information								
A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list.								
Component TSCA CERLCA (RQ) RCRA code DSL NDSL CA Prop 65								
Urea Listed Not listed Not listed Not listed Listed Not listed This product does not co any chemicals known to of California to cause ca	the State							
Section 16 Other information reproductive toxicity.	ncer or							

The information contained herein is furnished without warranty of any kind. Employers should use this information only as a supplement to other information gathered by them and must make independent determinations of suitability and completeness of information from all sources to assure proper use of these materials and the safety and health of employees. NTP: National Toxicology Program, IARC: International Agency for Research on Cancer, OSHA: Occupational Safety and Health Administration, STOT: Specific Target Organ Toxicity, SE: Single Exposure, RE: Repeated Exposure, ERG: Emergency Response Guidebook. Form 06/2015

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ection	1

Identification

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Phone Number (800) 424-9300 For laboratory and industrial use only. Not for drug, food or household use.

ZINC METAL Product Synonyms Zinc / Zinc Metal Granules Section 2 Hazards identification This substance or mixture has not been classified as hazardous according Supplemental information: to the Globally Harmonized System (GHS) of Classification and Labeling of Do not breathe dust. Do not get in eyes, on skin, or on clothing. Wear protective Chemicals. gloves/protective clothing/eye protection/face protection. Wash hands thoroughly after handling. Get medical attention if you feel unwell. Signal word: Not classified Pictograms: Not classified Target organs: None known GHS Classification: Not classified GHS Label information: Hazard statement(s): Not classified Precautionary statement(s): Not classified

Hazards not otherwise classified:

Health hazards not otherwise classified (HHNOC) - Combustible dust Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on ingredients						
Chemical Name		CAS #	%	EINECS			
Zinc, granules		7440-66-6	100%	231-175-3			
Section 4	First aid measures						

INGESTION: MAY BE HARMFUL IF SWALLOWED. Call physician or Poison Control Center immediately. Induce vomiting only if advised by appropriate medical personnel. Never give anything by mouth to an unconscious person.

INHALATION: HARMFUL IF INHALED AS FUME. Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention. EYE CONTACT: MAY CAUSE MECHANICAL IRRITATION. Check for and remove contact lenses. Flush thoroughly with water for at least 15 minutes, lifting upper and lower eyelids occasionally. Get immediate medical attention.

SKIN ABSORPTION: MAY CAUSE DERMATITIS. Remove contaminated clothing. Flush thoroughly with mild soap and water. If irritation occurs, get medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: Use triclass, dry chemical fire extinguisher. Do NOT use water on fire where molten metal is present.

Protective Actions for Fire-fighters: In fire conditions, wear a NIOSH/MSHA-approved self-contained breathing apparatus and full protective gear. Use water spray to keep fire-exposed containers cool.

Specific Hazards: During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Molten metals produce fume, vapor and/or dust that may be toxic and/or a respiratory irritant. Metal reacts with oxidizing agents. Small chips, turnings, and dust with ignite readily. Dust cloud may be explosive.

Section 6 Accidental release measures

Personal Precautions: Evacuate personnel to safe area. Use proper personal protective equipment as indicated in Section 8. Provide adequate ventilation.

Environmental Precautions: Avoid runoff into storm sewers and ditches which lead to waterways.

Containment and Cleanup: Sweep or vacuum up and place in a suitable container for proper disposal. Wash spill area with soap and water.

Read label on container before using. Do not wear contact lenses when working with chemicals. Keep container tightly closed. Keep out of reach of children. Use with adequate ventilation. Wash thoroughly after handling.

Handling: Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid ingestion. Do not inhale fumes from molten metals. Wash thoroughly after handling. Remove and wash clothing before reuse.

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.

Section 8	Exposure controls / personal protection					
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)		
	Particulates not otherwise classified	None established	TWA: 5 mg/m ³ respirable fraction	None established		

Engineering controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower and fire extinguishing material. Personnel should wear safety glasses, goggles, or faceshield, lab coat or apron, appropriate protective gloves. Use adequate ventilation to keep airborne concentrations low.

Respiratory protection: None should be needed in normal laboratory handling at room temperatures. If dusty conditions prevail, work in fume hood or wear a NIOSH/MSHAapproved respirator.

Section 9 Physical and chemical pr	operties	
Appearance: Solid. Metallic silver-gray granules Odor: No odor. Odor threshold: Data not available. pH: Data not available. Melting / Freezing point: 419°C (787°F) Boiling point: 907°C (1665°F) Flash point: Not applicable	Evaporation rate (=1): Not applicable Flammability (solid/gas): Not applicable Explosion limits: Lower / Upper: Not applicable Vapor pressure (mm Hg): Data not available Vapor density (Air = 1): Data not available Relative density (Specific gravity): 7.12 Solubility(ies): Insoluble	Partition coefficient: Data not available Auto-ignition temperature: Not applicable Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Zn Molecular weight: 65.38
Section 10 Stability and reactivity		

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Excessive temperatures. Hydrogen may evolve when in contact with water or damp air.

Incompatibilities with other materials: Strong acids, halogens, acids, alkalies and water.

Hazardous decomposition products: Zinc oxides and zinc fumes. Reacts with water, acids or alkalies to generate hydrogen gas.

Section 11 Toxicological information

Acute toxicity: Data not available

Skin corrosion/irritation: Data not available

Serious eye damage/irritation: Data not available

Respiratory or skin sensitization: Data not available Germ cell mutagenicity: Data not available

Carcinogenity: Data not available

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Data not available

STOT-single exposure: Data not available

STOT-repeated exposure: Data not available

Aspiration hazard: Data not available

Potential health effects:

Inhalation: Inhalation of dust or fume may cause irritation to eyes, nose, throat, and cause a metallic taste in the mouth. May cause metal fume fever or produce flu-like symptoms. Ingestion: May be harmful if swallowed.

Skin: May cause dermatitis

Eyes: Contact with eyes may cause mechanical irritation.

Signs and symptoms of exposure: Over-heating of alloy can produce metal fumes and oxides. Over-exposure to dust and fumes may cause mouth, eye, and nose irritation. Additional information: RTECS #: None assigned

Section 12 Ecological information

Toxicity to fish: No data available

Toxicity to daphnia and other aquatic invertebrates: No data available

Toxicity to algae: No data available

Persistence and degradability: No data available Bioaccumulative potential: No data available

Mobility in soil: No data available PBT and vPvB assessment: No data available

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

Section 13 Disposal considerations

These disposal guidelines are intended for the disposal of catalog-size quantities only. Federal regulations may apply to empty container. State and/or local regulations may be different. Dispose of in accordance with all local, state and federal regulations or contract with a licensed chemical disposal agency.

Section 14	mansport informati	011					
Hazard class: No	N/NA number:Not applicableShipping name:Not Regulatedazard class:Not applicablePacking group:Not applicableaceptions:Not applicable2016 ERG Guide # Not applicable		Reportable Quantity: No		Marine pollutant: No		
Section 15	Regulatory informat	ion					
A chemical is considered	to be listed if the CAS num	ber for the anhydrous form	is on the Inventory list.				
Compone	nt	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Zinc		Listed	Not listed	Not listed	Listed	Not listed	This product does not contain any chemicals known to the State of California to cause cancer or reproductive toxicity.
Section 16	Other information						·
dent determinations of si	uitability and completeness	of information from all sour	ces to assure proper use	of these materials and	the safety and he	ealth of employees	ered by them and must make indepen- . NTP: National Toxicology Program, psure, RE: Repeated Exposure,

ERG: Emergency Response Guidebook