GENERAL STORAGE CODE GREEN

Page E1 of E2

Section 1	
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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	
Synonyms	Aluminum; Aluminum Metal	
Section 2	Hazards identification	
to the Globa Chemicals. Signal word Pictograms Target orga GHS Classin GHS Label i	Ince or mixture has not been classified as hazardous according ally Harmonized System (GHS) of Classification and Labeling of I: Not classified ns: Not classified information: Hazard statement(s): Not classified ary statement(s): Not classified	Supplementary information: Do not inhale dust or fumes. 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) - Combustible dust

Physical nazards 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: 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: Sand, dry chemical, or CO₂ should be used on surrounding fire. 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. 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. Reacts with some acids and caustic solutions to produce hydrogen. Molten aluminum may explode on contact with water. It may also react violently with rust, certain metal oxides (e.g. oxides of copper, iron and lead) and nitrates (e.g. ammonium nitrate and fertilizers containing ammonium nitrate).

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.

Section 7	Handling and storage	Page E2 of E2
	er before using. Do not wear contact lenses when working with chemicals. Keep container tightly closed. Keep out of reach of children. Wash thoroughly after handling.	Use with
Handling: Use with ad and wash clothing before	dequate ventilation. Avoid contact with eyes, skin and clothing. Avoid ingestion. Do not inhale dust or fumes. Wash thoroughly after hand ore reuse.	dling. Remove

Storage: Store in a cool, dry, well-ventilated area away from incompatible substances.						
Section 8	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 mg/m ³ (A4) Respirable fraction	TWA: 5 mg/m ³ Respirable fraction	TWA: 5 mg/m ³ Respirable fraction		
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.

Section 9	Physical and chemical p	roperties					
Appearance: Solid. Silver-grey metallic granules Odor: No odor.Evaporation rate (=1): Not applicable Flammability (solid/gas): Not applicable Explosion limits: Lower / Upper: Not applicable Vapor pressure (mm Hg): Data not available Boiling point: Data not available Flam point: Not applicablePartition coeffici Auto-ignition ter Decomposition ter Viscosity: Data Molecular formut Relative density (Specific gravity): Data not available Solubility(ies): InsolublePartition coeffici Auto-ignition ter Decomposition ter Decomposition ter Viscosity: Data Molecular weigh						on temperature sition temperatu Data not availat formula: Al	: Not applicable ire: Data not available.
Section 10	Stability and reactivity						
Chemical stability: Conditions to avoid	Stable I: Excessive temperatures and		us polymerization:	Will not occur.			
Incompatibilities with	th other materials: Strong ox	idizers, mineral aci	ids, strong alkalies, ha	alogenated hydrocarb	oons, and wate	er.	
Hazardous decomp	osition products: Reacts with	n water (in molten f	form), acids or alkalie	s to generate hydroge	en gas.		
Section 11	Toxicological information	า					
Skin corrosion/irrit Serious eye damag Respiratory or skin Germ cell mutagen Carcinogenity: Dai NTP: No componen IARC: No componen OSHA: No componen Reproductive toxic STOT-single expos STOT-repeated exp Aspiration hazard: Potential health eff Inhalation: Inhalatio Ingestion: May be h Skin: May cause irrii Eyes: Contact with o Signs and symptor	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. Ingestion: May be harmful if swallowed. Skin: May cause irritation. Eyes: Contact with eyes may cause irritation. Signs and symptoms of exposure: It has been reported that chronic exposure has been suspected of causing lung injury. To the best of our knowledge, the chemical,						SHA.
Section 12	Ecological information						
Toxicity to algae: N Persistence and de Mobility in soil: No	and other aquatic invertebra o data available gradability: No data available	Bioaccumu PBT and vF	l ative potential : No PvB assessment: No	o data available	disposal.		
Section 13	Disposal considerations						
							container. State and/or local
Section 14	e different. Dispose of in acc Transport information		iocal, state and led	eral regulations of		a licensed che	anical disposal agency.
UN/NA number:	•	oping name: N	ot Pogulated				
Hazard class: No Exceptions: No	ot applicable Pac	king group: No 6 ERG Guide #	ot applicable	Reportable Qua	ntity: No	Ma	arine pollutant: No
Section 15	Regulatory information						
	d to be listed if the CAS number for	the anhydrous form	is on the Inventory list				
Compone		TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Aluminum		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						
							ered 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. en-Form 06/2015

Section 1	Identification		Page E1 of E
	Ating Science [®] by Aldon Corporation utting 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	PELLITIZED ACTIVATED CARBON		
Synonyms	None		
Section 2	Hazards identification		
Pictograms Target orga GHS Classi Eye irritatior STOT (Cate GHS Label H320: Caus	ns: Respiratory system, Eyes fication: (Category 2B)	P271: Use only outdo P280: Wear protectiv P304+P340: IF INHA breathing. P305+P351+P338: I Remove contact lens P312: Call a POISON P403+P233: Store in P405: Store locked u P501: Dispose of cor	horoughly after handling. oors or in a well-ventilated area. /e gloves/protective clothing/eye protection/face protection. ALED: Remove person to fresh air and keep comfortable for IF IN EYES: Rinse cautiously with water for several minutes. ses, if present and easy to do. Continue rinsing. N CENTER or doctor if you feel unwell. In a well-ventilated place. Keep container tightly closed. up. ntents/container to a licensed chemical disposal agency in al/regional/national regulations.
	ot otherwise classified:	have been identified according to the Unit "self-heating substan of Tests and Criteria, Heating Substances) not meet the definitio class, and therefore	N classification for activated carbon, all activated carbons as a class 4.2 product. However, this product has been tested ted Nations Transport of Dangerous Goods test protocol for a cce" (United Nations Transportation of Dangerous Goods, Manua Part III, Section 33.3.1.6 - Test N.4 - Test Method for Self-) and it has been specifically determined that this product does on of a self-heating substance (class 4.2) or any other hazard should not be listed as a hazardous material. This information is the Activated Carbon Product identified in this document.

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

Section 3	Composition / information on i	ingredients			
Chemical Name		CAS #	%	EINECS	
Carbon		7440-44-0	100%	231-153-3	
Section 4	First aid measures				

INGESTION: MAY BE HARMFUL IF SWALLOWED. If the material is swallowed, get immediate medical attention or advice. DO NOT induce vomiting unless directed to do so by medical personnel.

INHALATION: MAY CAUSE RESPIRATORY IRRITATION. Remove person to fresh air. If not breathing, administer CPR or artifical respiration. Get immediate medical attention.

EYE CONTACT: CAUSES SERIOUS EYE DAMAGE. Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists, get medical attention.

SKIN ABSORPTION: MAY CAUSE SKIN IRRITATION. If skin reddening or irritation develops, seek medical attention.

Section 5 Fire fighting measures

Suitable Extinguishing Media: In case of fire, flood with plenty of water.

Protective Actions for Fire-fighters: Firefighters should wear full protective gear.

Specific Hazards: Contact with strong oxidizers such as ozone, liquid oxygen, chlorine, etc. may result in fire.

Section 6 Accidental release measures

Personal Precautions: Use proper personal protective equipment as indicated in Section 8. Avoid contact with the skin and eyes.

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

Containment and Cleanup: Remove all sources of ignition. Shovel or sweep up and place in closed container for proper disposal. Wash spill area with soap and water.

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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. Do not inhale dusts. Use with adequate ventilation. Wet activated carbon removes oxygen from air causing severe hazard to workers inside carbon bessels or confined space. Wash thoroughly after handling. Remove and wash clothing before reuse.

Conditions for Safe Storage: Protect containers from physical damage. Store in dry, cool, well-ventilated area.

Section 8	Exposure controls / personal protection						
Exposure Limits:	Chemical Name	ACGIH (TLV)	OSHA (PEL)	NIOSH (REL)			
Exposure Linits.	None established	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 chemi	al proportion						
Appearance: Solid. Black pellet. Odor: Data not available. Odor threshold: Data not available. pH: Data not available Melting / Freezing point: Data not available Boiling point: Data not available Flash point: Data not available.	Evaporation rate (=1): Data not available Flammability (solid/gas): Data not available. Explosion limits: Lower / Upper: Data not available Vapor pressure (mm Hg): Data not available Vapor density (Air = 1): Data not available Relative density (Specific gravity): 28-33 lb/cuft Solubility(ies): Data not available.	Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available Viscosity: Data not available. Molecular formula: Mixture Molecular weight: Mixture					
Section 10 Stability and reactive	ty						
	ditions Hazardous polymerization: Will n d reducing agents such as ozone, liquid oxygen or chlorine.	iot occur.					
· · · · · · · · · · · · · · · · · · ·	, ,						
Section 11 Toxicological inform	ation						
Section 11 Toxicological information Acute toxicity: Oral-rat LD50: >10,000 mg/kg Skin corrosion/irritation: Not classified Serious eye damage/irritation: Causes eye irritation Respiratory or skin sensitization: Not classified Germ cell mutagenicity: Not classified Carcinogenity: Not classified 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: Not classified STOT-single exposure: May cause respiratory irritation STOT-repeated exposure: Not classified Aspiration hazard: Not classified Potential health effects: Inhalation: Material may be irritating to mucous membranes and upper respiratory tract. May be harmful if inhaled. Ingestion: May be karmful if swallowed. Skin: May cause skin irritation. Eyes: May cause eye irritation. Eyes: May cause eye irritation. Signs and symptoms of exposure: To the best of our knowledge, the chemical, physical and toxicological properties have not been thoroug							
Section 12 Ecological informat	on						
Toxicity to fish: No data available Toxicity to daphnia and other aquatic inve	ebrates: 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 informat	ion					
UN/NA number: Hazard class: No Exceptions: Not	ot applicable	Shipping name: Packing group: 2016 ERG Guide a	Not applicable	Reportable Qu	antity: No	Ma	arine pollutant: No
Section 15	Regulatory informa	tion					
A chemical is considere	d to be listed if the CAS nur	nber for the anhydrous for	m is on the Inventory list.				
Compone	ent	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Activated carbon		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
		1	1				reproductive toxicity.
Section 16	Other information						
dent determinations of	suitability and completeness	of information from all so	urces to assure proper use	of these materials an	d the safety and h	ealth of employees	ered by them and must make indepen- s. NTP: National Toxicology Program, osure, RE: Repeated Exposure,

ERG: Emergency Response Guidebook.

GENERAL STORAGE CODE GREEN

Section 1	Identification	Page E1 of E2
		CHEMTREC 24 Hour Emergency

221 Rochester Street

(585) 226-6177

Avon, NY 14414-9409

Innovating Science[®] by Aldon Corporation

"cutting edge science for the classroom"

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

Not for drug, food or household use.

Product SILICON METAL, LUMPS	
Synonyms Silicon Metal	
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 GHS Classification: None required GHS Label information: Hazard statement: None required Precautionary statement: None required	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.

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	
Silicon metal lumps		7440-21-3	100%	231-130-8	
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 anythin g by mouth to an unconscious person.

INHALATION: DUST 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.

Form 06/2015

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.	Silicon	Not established	TWA: 5 mg/m ³ Respirable fraction	TWA: 5 mg/m ³ Respirable fraction	

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 availab Melting / Freezing p Boiling point: Data Flash point: Not flar	ta not available. le. oint: 1440°C (2624°F) not available	Flammability (s Explosion limit Vapor pressure Vapor density (Relative densit	te (=1): Data not a olid/gas): Data not s: Lower / Upper: I (mm Hg): Data not Air = 1): Data not y (Specific gravity): Insoluble in water.	available. Data not available available railable	Auto-ignitio Decomposi Viscosity: Molecular f	•	: Data not available r e: Data not available.
Section 10	Stability and reactivity						
Incompatible mater	Stable : Avoid generation of airbor ials: Acids and strong base osition products: None kn	ne dust. s.	us polymerization:	Will not occur.			
Section 11	Toxicological information	ion					
Skin corrosion/irrita Serious eye damag Respiratory or skin Germ cell mutageni Carcinogenity: Dat NTP: No componen OSHA: No componen OSHA: No componen Reproductive toxici STOT-single expose STOT-repeated exp Aspiration hazard: Potential health eff Inhalation: May be hi Ingestion: May be hi Skin: Contact with m Eyes: Contact with m	of this product present at let t of this product present at let nt of this product present at le ity: Data not available ure: Data not available Data not available bata not available cets: armful if inhaled. armful if swallowed. hay cause irritation.	ailable vels greater than or e evels greater than or e levels greater than or d in the form of lumps	qual to 0.1% is ident equal to 0.1% is ider	ified as probable, po tified as a carcinoge	essible or confir	med human carc	
Section 12	Ecological information						
Toxicity to algae: No Persistence and de Mobility in soil: No	data available and other aquatic inverteb o data available gradability: No data availab	orates: No data availa ble Bioaccumu PBT and vP d cannot be excluded	lative potential: No PvB assessment: No	o data available	r disposal.		
	•		og-size quantities o	only Federal regul	lations may ar	oply to empty o	ontainer. State and/or local
	different. Dispose of in a						
Section 14	Transport information						
UN/NA number: Hazard class: No Exceptions: Not	ot applicable Pa	nipping name: No acking group: No 116 ERG Guide #	ot applicable	Reportable Qua	antity: No	Ма	rine pollutant: No
Section 15	Regulatory information						
	d to be listed if the CAS number	,	,				
Compone Silicon	nt	TSCA Listed	CERLCA (RQ) Not listed	RCRA code D001	DSL 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 toxicity.
Section 16	Other information						
The information contain dent determinations of s	ed herein is furnished without w	nformation from all source	es 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, page RE: Respected Exposure

the information contained nerven 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 1

SAFETY DATA SHEET

GENERAL STORAGE CODE GREEN

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Innovating Science[®] by Aldon Corporation

Identification

"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	ZINC SHOT	
Synonyms	Zinc / Zinc Metal / Zinc Metal Shot	
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 4: Not classified 5: Not classified 5: Not classified 5: Not classified 6: Information: Hazard statement(s): Not classified 7: Not classified 7: Not classified 7: Not classified 7: Not classified 7: 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) - Combustible dust Physical hazards not otherwise classified (PHNOC) - Not Known

Section 3	Composition / information on	ingredients			
Chemical Name		CAS #	%	EINECS	
Zinc, shot		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.

Section 7	Handling and storage		Page E2 of E2
Desident and an exception	a bafana waina . Da matura an anta at lana a suda a waadiina waidh ab ania a	Kana antainan tinbhu alagad. Kana aut af as ab af abildana	1.1

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.	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. Odor: No odor. Odor threshold: Da pH: Data not availab Melting / Freezing poin Boiling point: 907° Flash point: Not ap	ole. nt: 419°C (787°F) C (1665°F)	Flammability (Explosion limi Vapor pressur Vapor density	te (= 1): Not applic solid/gas): Not appli ts: Lower / Upper: 1 e (mm Hg): Data not (Air = 1): Data not av ty (Specific gravity): Insoluble	cable Not applicable available /ailable	Auto-igniti Decompos Viscosity: Molecular		: Not applicable i re: Data not available.
Section 10	Stability and reactivity						
Incompatibilities wi	Stable : Excessive temperatures. Hy th other materials: Strong aci osition products: Zinc oxides	drogen may evolv ds, halogens, acio	ls, alkalies and water.	n water or damp air.	erate hydroger	n gas.	
Section 11	Toxicological information						
Serious eye damag Respiratory or skin Germ cell mutageni Carcinogenity: Dat NTP: No component IARC: No componen OSHA: No componen OSHA: No componen Reproductive toxici STOT-single expose STOT-repeated exp Aspiration hazard: Potential health effe Inhalation: Inhalation Ingestion: May be ha Skin: May cause den Eyes: Contact with e Signs and symptom Additional informat	ation: Data not available e/irritation: Data not available sensitization: Data not available sensitization: Data not available a not available of this product present at levels to f this product present at levels to fis product present at level to fis product present at level to fis product present at level to fis product present at level tre: Data not available Data not available Data not available Data not available cets: of dust or fume may cause irrita armful if swallowed. matitis. eyes may cause mechanical irrit sof exposure: Over-heating ion: RTECS #: None assigned	greater than or e s greater than or els greater than or ation to eyes, nose ation. of alloy can produ	equal to 0.1% is ident equal to 0.1% is iden e, throat, and cause a	ified as probable, pos tified as a carcinoger metallic taste in the m	ssible or confir n or potential c nouth. May cau	med human carc carcinogen by OS	0,
Section 12	Ecological information						
Toxicity to algae: No Persistence and de Mobility in soil: No Other adverse effec	and other aquatic invertebrat o data available gradability: No data available data available ts: An environmental hazard c	Bioaccumu PBT and vi	llative potential: No PvB assessment: No	o data available	r disposal.		
Section 13	Disposal considerations						
	delines are intended for the different. Dispose of in acc						
Section 14	Transport information						
UN/NA number: Hazard class: No Exceptions: Not	Not applicable Ship ot applicable Pack applicable 2016	ping name: N ing group: No ERG Guide #	ot applicable	Reportable Qua	antity: No	Ma	arine pollutant: No
Section 15	Regulatory information	the aphydrous form	is on the Inventory list				
A chemical is considered Compone	d to be listed if the CAS number for	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						
							ered by them and must make indepen- s. NTP: National Toxicology Program,

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

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 SULFUR	
Synonyms Sulfur Flowers ; Sulfur Flour	
Section 2 Hazards identification	
Signal word: WARNING Pictograms: GHS07 Target organs: None known	Precautionary statement: P264: Wash hands thoroughly after handling. P280: Wear protective gloves/protective clothing/eye protection/face protection. 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.
GHS Classification: Skin irritation (Category 2)	
GHS Label information: Hazard statement: H315: Causes skin irritation.	

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		
Sulfur		7704-34-9	100%	231-722-6		
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. Finely dispersed particles form 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: 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 Limits.	Sulfur	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.

approved respirator.							
Section 9	Physical and chemical pro	operties					
Odor:Odor of rotten eggsFlammability (solid/gas):Data not available.Auto-ignitionOdor threshold:Data not available.Explosion limits:Lower / Upper:3.3% / 46.0%DecompositipH:Data not available.Vapor pressure (mm Hg):0 @ 138°C (280°F)Viscosity:DMelting / Freezing point:116-121°C (242-251°F)Vapor density (Air = 1):Data not availableMolecular forBoiling point:444°C (831°F)Relative density (Specific gravity):2.04-2.07 @ 21°C (670°F)Molecular wereFlash point:207°C (405°F)Closed CupSolubility(ies):Insoluble in water.Molecular were					Data not availab	:248°C (478°F) re: Data not available.	
Section 10	Stability and reactivity						
Incompatible mater	Stable Excessive temperatures, heat ials: Reacts violently with stron osition products: Sulfur dioxic	, sparks, open fla g oxidizing agents		s of ignition.	Damp sulfur	will corrode steel.	
Section 11	Toxicological information						
Skin corrosion/irrit. Serious eye damag Respiratory or skin Germ cell mutagen Carcinogenity: Dat NTP: No componen OSHA: No componen OSHA: No componen OSHA: No componen Reproductive toxic STOT-single expos STOT-repeated exp Aspiration hazard: Potential health effi Inhalation: Burning s Skin: Redness. Pro Eyes: Redness, pail	Acute toxicity: Oral-rat LD50: >5000 mg/kg ; Inhalation-rat LC50: 0.067 mg/L/4hours ; Dermal-rabbit LD50: >2000 mg/kg Skin corrosion/irritation: Skin-rabbit - Irritant. Serious eye damage/irritation: Data not available Respiratory or skin sensitization: Data not available Germ cell mutagenicity: 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 Potential health effects: Inhalation: Burning sensation, cough, sore throat. Ingestion: Burning sensation, diarrhea. Skin: Redness. Potential health effects: Store throat thay cause dermatitis. Eyes: Redness.						
Section 12	Ecological information						
Toxicity to daphnia Toxicity to algae: N Persistence and de Mobility in soil: No Other adverse effect	Toxicity to fish: Brachydanio rerio (fish, fresh water), LC50 = 866 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 Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.						
Section 13	Disposal considerations						
These disposal gui regulations may be Section 14	delines are intended for the or different. Dispose of in according to the order of	nsposal of catal ordance with all	og-size quantities o local, state and fed	nly. Federal regul eral regulations or	ations may a contract with	pply to empty c a licensed che	ontainer. State and/or local emical disposal agency.
UN/NA number:	•	name: Sulfur					
Hazard class: 9 Exceptions: No	Packing g		Reporta	able Quantity: N	0	Ма	arine pollutant: No
Section 15	Regulatory information						
A chemical is considere	d to be listed if the CAS number for t	he anhydrous form i	s on the Inventory list.				
Compone	ent	TSCA	CERLCA (RQ)	RCRA code	DSL	NDSL	CA Prop 65
Sulfur		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						

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

GENERAL STORAGE CODE GREEN

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Section 1

Identification

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Innovating Science[®] by Aldon Corporation 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 Foil / Copper Foil	
Section 2 Hazards identification	
This substance or mixture has not been classified as hazardous according o the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals. Signal word: Not classified Pictograms: Not classified Target organs: Liver, Kidneys SHS Classification: Not classified BHS Label information: Hazard statement(s): Not classified Precautionary statement(s): Not classified	Supplemental information: SHARP EDGES! ABRASIVE TO SKIN. USE CARE WHEN HANDLING. 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.

Not Known zards not otherwise classified (HHNUC) -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 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 properties Appearance: Solid. Red-brown, lustrous metal. Evaporation rate (= 1): Not applicable Partition coefficient: Data 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. H: Data not available. Melting / Freezing point: 1083°C (1981°F) Boiling point: 2595°C (4703°F) Vapor density (Air = 1): Data not available Molecular formula: Cu Relative density (Specific gravity): 8.92 @ 20°C Molecular weight: 63.55 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. Transport information

UN/NA number: Not app Hazard class: Not app Exceptions: Not app	plicable	Shipping name: Packing group: 1 2016 ERG Guide #	Not applicable	Reportable Qua	antity: No	Ma	rine pollutant: No
Section 15 Res	gulatory informati	on					
A chemical is considered to be	e listed if the CAS numb	er for the anhydrous forr	m is on the Inventory list.				
Component		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 Otl	her information						Toproductive textory.
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- tent 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, ARC: 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 14

FLAMMABLE STORAGE CODE RED

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	MAGNESIUM METAL, RIBBON	
Synonyms	Magnesium	
Section 2	Hazards identification	
Pictograms	I: WARNING : GHS02 ns : None known	Precautionary statement: P210: Keep away from heat/sparks/open flames/hot surfaces. No smoking.
GHS Classin Flammable s	fication: solid (Category 2)	
GHS Label i H228: Flamr	information: Hazard statement: nable solid.	

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		
Magnesium		7439-95-4	99.8%	231-104-6		
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. 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 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.

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.

Section 1 Physical and chemical properties Particle Odor No codor. Odor Threshold. Data not available. Particle coefficient: Data not available. Odor Threshold. Data not available. Particle coefficient: Data not available. Auto-particle reader available. Auto-particle reader available. Odor Threshold. Data not available. Particle coefficient: Data not available. Auto-particle reader available. Auto-particle reader available. Odor Threshold. Data not available. Particle coefficient: Data not available. Auto-particle reader available. Odor Threshold. Data not available. Particle coefficient: Data not available. Naccept: Data not available. Section 1 Stability and read: Vigor Bata not available. Naccept: Data not available. Section 1 Stability and read: Vigor Hazardous polymerization: Will not occur. Naccept: Data not available. Section 1 Stability and read: Vigor Naccept: Data not available. Naccept: Data not available. Section 1 Stability and read: Vigor Stability and read: Vigor Naccept: Vigor Section 1 Stability and read: Vigor Vigor <vigor< td=""> Naccept: Vigor</vigor<>	approved respirator.							
Color. No. code: Finamability (solid(gas): Data not available. Atta-failton available. Atta-failton available. Opt Threshold: Explore influx: Explore inf	Section 9	Physical and chemical pro	perties					
Chemical stability: Stab	Odor: No odor. Odor threshold: Da pH: Data not availal Melting / Freezing p Boiling point: 1110	ata not available. ble. point: 651°C (1203.8°F) °C (2030°F)	Flammability (Explosion limi Vapor pressur Vapor density Relative densit	solid/gas): Data not a its: Lower / Upper: D re (mm Hg): 1 mm @ ((Air = 1): Data not ava y (Specific gravity): 1.7	ivailable. lata not available 521°C ailable	Auto-ignit Decompos Viscosity: Molecular	ion temperature sition temperatu Data not availal formula: Mg	e: 510°C (950°F) Ire: Data not available.
Conditions to avoid: Excessive temperatures, heat, sparks, open fame and define sources of ignition. Incompatible materials: Magnesium will read with water and acids to release hydrogen. Also hazardous with chlorine, bromine, iodine and oxidizing agents. Hazardous decomposition products: Hydrogen. Socion 1 Toxicological information Serious or damagnetization: Data not available Serious or damagnetization: Data not available Gern cell mutagnetization: Data not available STOT-ingite exposure: Exposure to magnesium nary cause actioning of magnesium fines as available Stotich 12 Cological Information: RTEG 8: Wel 200000 Section 12 Cological Information: Stotich 97 Gernota epide involution mode fung esposure: Exposure to magnesium nary cause action for exposure: Exposure to magnesium oxide fung esposure. Stotich 97 Gernotagnet pand. Onset of symptoms coccurs 4-12 hours after exposure. Exercise appropriate procedures to minimize potential hazards. Stotich 97 Gernotagnet pand. Onset of symptoms coccurs 4-12 hours after exposure. Stotich 90 Gernotagnet pand. Onset of symptoms coccurs 4-12 hours after exposure. Stotich 90 Gernotagnet pand. Onset of symptoms coccurs 4-12 hour	Section 10	Stability and reactivity						
Acute toxicity: Data not available Skin corrosion/irritation: Data not available Skin corrosion/irritation: Data not available Respiratory or skin sensitization: Data not available Garcinogenity: Data not available Garcinogenity: Data not available Carcinogenity: Data not available STOT-speated exposure: Data not available STOT-speated exposure: Data not available STOT-speated exposure: Data not available Potential health effects: Inhalaton: Inhalaton may cause cough, sore throat, shortness of breath. Ingestion: Ingestion causes burning sensation in the mouth and may cause abdominal pain and diarrhea. Ssin: Particle may cause cough, sore throat, shortness of breath. Ingestion: Ingestion causes burning sensation in the mouth and may cause abdominal pain and diarrhea. Ssin: Particle may cause cough, sore throat, shortness of breath. Ingestion: Ingestion causes burning sensation in the mouth and may cause serious skin burns. Eyes: Contact with eyes may cause intition and correal scratches. Avoid direct viewing of magnestum fires are eye injury may result, use fire glasses. Signs and symptoms of coposerie: Exposure to magnesium oxide funce subsequent to burning cause throat, shortness. Eyes: Contact with eyes and cause intended of the adjusted funce subsequent to burning can result in metal funce fever. The temporary symptoms can include fever, chills, nausea, vomiting and other aquetic invertebrates: No data available Toxicity to fashina and other aquetic invertebrates: No data available Portial to data available Porestence and degradability: No data available Portial to data av	Conditions to avoid Incompatible mate	d: Excessive temperatures, heat rials: Magnesium will react with	, sparks, open fl	ame and other sources	of ignition.	chlorine, bron	nine, iodine and o	oxidizing agents.
Skin corrosion/irritation: Data not available Respiratory or skin sensitization: Data not available Carcinogenity: Data not available Carcinogenity: Data not available Different of this product present at levels greater than or equal to 0.1% is identified as nobable, 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 nobable, 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 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-repreted exposure: Data not available Apprintion intration: Inhalation may cause eurptions. Motien magnesium may cause earbidus skin burns. Syn:: Particles imbedded in the skin may cause eurptions. Motien magnesium may cause eurptions carces this mellume fever. The temporary symptoms can include fever, chills, nauses, untiling and cornel synthes. Avoid direct Vewing of magnesium fires as eye injury may result, use fire glasses. Sign: and symptoms of oxposure: Exposure to magnesium oxide fure subsequent to burning can result in mellume fever. The temporary symptoms can include fever, chills, nauses, unvinting and muscular pain. Onset of symptomes or to symptomes or to symptoms or toreprete tis symptoms. <t< td=""><td>Section 11</td><td>Toxicological information</td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	Section 11	Toxicological information						
Toxicity to fish: No data available Toxicity to fish: 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: UN1869 Shipping name: Magnesium Hazard class: 4.1 Packing group: III Reportable Quantity: No Marine pollutant: No Exceptions: Limited quantity equal to or less than 5 Kg 2016 ERG Guide # 138 Section 15 Regulatory information A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list. Not listed This product does not contain any chemicals known to the State on Contain any chemicals known to the State on California to cause cancer on the State on California to cause cancer on the State on California to cause cancer on the State on the State on Californin to the State on California to the State on California	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 may cause cough, sore throat, shortness of breath. 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 poten							
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: UN1869 Shipping name: Magnesium Hazard class: 4.1 Packing group: III Reportable Quantity: No Marine pollutant: No Exceptions: Limited quantity equal to or less than 5 Kg 2016 ERG Guide # 138 Section 15 Section 15 Regulatory information Achemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list. Achemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list. Tis product does not contain any chemicals known to the State of California to cause cancer or	Section 12	Ecological information						
regulations may be different. Dispose of in accordance with al local, state and federal regulations or contract with a licensed chemical disposal agency. Section 14 Transport information UN/NA number: UN1869 Shipping name: Magnesium Hazard class: 4.1 Packing group: III Reportable Quantity: No Marine pollutant: No Exceptions: Limited quantity equal to or less than 5 Kg 2016 ERG Guide # 138 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 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	Toxicity to daphnia Toxicity to algae: N Persistence and de Mobility in soil: No Other adverse effet Section 13	a and other aquatic invertebrate lo data available egradability: No data available o data available cts: An environmental hazard ca Disposal considerations	Bioaccum PBT and v nnot be exclude	ulative potential: No PvB assessment: No d in the event of unprot	data available fessional handling o	·	apply to empty	container. State and/or local
UN/NA number: UN1869 Shipping name: Magnesium Hazard class: 4.1 Packing group: III Reportable Quantity: No Exceptions: Limited quantity equal to or less than 5 Kg 2016 ERG Guide # 138 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. MCRA 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 the containers of the cause cancer or the containers of the cause cancer or th	regulations may be	e different. Dispose of in acco	ordance with al	l local, state and fede	eral regulations or	contract with	n a licensed che	emical disposal agency.
Hazard class: 4.1 Packing group: III Reportable Quantity: No Marine pollutant: No Exceptions: Limited quantity equal to or less than 5 Kg 2016 ERG Guide # 138 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. Marine pollutant: No Component TSCA CERLCA (RQ) RCRA code DSL NDSL CA Prop 65 Magnesium Listed Not listed D001 Listed Not listed of California to cause cancer or of California to cause c		•						
A chemical is considered to be listed if the CAS number for the anhydrous form is on the Inventory list. 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 the California to c	Hazard class: 4.	1 Packing g	roup: III	Reporta	•	0	Ma	arine pollutant: No
ComponentTSCACERLCA (RQ)RCRA codeDSLNDSLCA Prop 65MagnesiumListedNot listedD001ListedNot listedThis product does not contain any chemicals known to the State of California to cause cancer or the state								
MagnesiumListedNot listedD001ListedNot listedThis product does not contain any chemicals known to the State of California to cause cancer or				-				A A A A
any chemicals known to the State of California to cause cancer or	· · ·	ent						•
	Magnesium		Listed	Not listed	D001	Listed	Not listed	any chemicals known to the State of California to cause cancer 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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Section 1

Identification

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

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"cutting edge science for the classroom" HYDROCHLORIC ACID, 1 MOLAR (1 NORMAL) SOLUTION Product Synonyms Muriatic Acid, Water Solution / Hydrogen Chloride, Water Solution Section 2 Hazards identification Signal word: WARNING Precautionary statement(s): Pictograms: GHS05 P234: Keep only in original container. Target organs: Respiratory system, skin, eyes, lungs. 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. P390: Absorb spillage to prevent material damage. GHS Classification: P406: Store in corrosive resistant container with a resistant inner liner. Corrosive to metals (Category 1) Skin irritant (Category 3) Eye irritant (Category 2B) GHS Label information: Hazard statement(s): H290: May be corrosive to metals. 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	96.86% 3.14%	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/MSHAapproved respirator.

Section 9	Physical and chemical pr	operties				
Appearance: Clear Odor: No odor. Odor threshold: No pH: No data availad Melting / Freezing p Boiling point: ~ 10 Flash point: Not fla Evaporation rate (o data available ble point: ~ 0°C (~ 32°F) [water] 0°C (212°F) [water] immable.	Flammability (solid/gas): No dat Explosion limits: Upper/Lower: Vapor pressure (mm Hg): 14 [wa Vapor density (Air = 1): 0.7 [wat Relative density (Specific gravit Solubility(ies): Complete. Partition coefficient: (n-octanol / wa Auto-ignition temperature: No oc	No data available ater] er] y): 1.0 [water] ter): No data available	Decomposition temperatur Viscosity: No data available Molecular formula: Mixture Molecular weight: Mixture.	9	
Section 10 Stability and reactivity						
Chemical stability: Conditions to avoid		Hazardous polymerization neated. Avoid contact with water.	: Will not occur.			
Incompatible mater formaldehyde.	ials: Metals, bases, active met	tals, alkali metals, oxidizing agents, h	ydroxides, amines, carb	onates, cyanides, sulfides, sulfi	tes,	
Hazardous decomp	osition products: Hydrogen c	chloride gas.				
Section 11	Toxicological information	ı				
Serious eye damage/irritation: Data not available at this dilution. Respiratory or skin sensitization: Data not available Germ cell mutagenicity: 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 swallowed. 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 [Hydrochloric acid]						
Section 12	Ecological information					
Toxicity to daphnia Toxicity to algae: N Persistence and de Mobility in soil: No	and other aquatic invertebrat o data available gradability: No data available data available		lo data available No data available	disposal.		
Section 13 Disposal considerations						
		disposal of catalog-size quantities cordance with all local, state and fo				
Section 14	Transport information					
UN/NA number: Hazard class: 8 Exceptions: Lim		ping name: Hydrochloric acid king group: III s than 5 Lt	Reportable Qua 2016 ERG Guide	ntity: 5000 lbs (2270 kg) # 157	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
Hydrochloric acid	D002	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 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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Section	1
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Identification

Innovating Science[®]

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

Product COPPER(II) CHLORIDE, 0.1 MOLAR SOLUTION Synonyms Cupric Chloride, Water Solution Section 2 Hazards identification Signal word: WARNING Pictograms: GHS07 / GHS09 Target organs: Respiratory system, Liver, Kidneys. Vive Vive GHS Classification: P262: Wear protective gloves/protective clothing/eye protection/face protection. Acute toxicity-oral (Category 4) Skin irritation (Category 2A) Skin irritation (Category 2A) Paquatic acute toxicity (Category 1) Aquatic acute toxicity (Category 1) P332+P313: If skin irritation occurs: Get medical advice/attention. P332: Harmful if swallowed. P331: Collect spillage. H319: Causes skin irritation. P319: Collect spillage. H319: Causes serious eye irritation. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.		edge science for the classroom"	221 Rochester Street Avon, NY 14414-9409 (585) 226-6177	For laboratory and industrial use only. Not for drug, food or household use.
Section 2 Hazards identification Signal word: WARNING Pictograms: GHS07 / GHS09 Target organs: Respiratory system, Liver, Kidneys. P264: Wash hands thoroughly after handling. Visit of the environment. P270: Do not eat, drink or smoke when using this product. 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. 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 (Category 2A) Aquatic acute toxicity (Category 1) P337+P313: If skin irritation occurs: Get medical advice/attention. P332+P313: If skin irritation dust before reuse. P391: Collect spillage. P311: Collect spillage. P311: Causes skin irritation. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations.	Product COPPI	ER(II) CHLORIDE, 0.1 MOLAR SOLUTION		
 Signal word: WARNING Pictograms: GHS07 / GHS09 Target organs: Respiratory system, Liver, Kidneys. 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+P332: 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. P302+P333: 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 advice/attention. P337+P313: If eye irritation persists: Get medical advice/attention. P362+P364: Take off contaminated clothing and wash before reuse. P391: Collect spillage. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations. 	Synonyms Cupric	Chloride, Water Solution		
 Pictograms: GHS07 / GHS09 Target organs: Respiratory system, Liver, Kidneys. 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 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 advice/attention. P337+P313: If eye irritation persists: Get medical advice/attention. P337+P313: If eye irritation persists: Get medical advice/attention. P362+P364: Take off contaminated clothing and wash before reuse. P391: Collect spillage. P501: Dispose of contents/container to a licensed chemical disposal agency in accordance with local/regional/national regulations. 	Section 2	Hazards identification		
	Pictograms: GHS07 Target organs: Resp CHS Classification: Acute toxicity-oral (Ca Skin irritation (Catego Aquatic acute toxicity Aquatic chronic toxici CHS Label informat H302: Harmful if swal H315: Causes skin in H319: Causes seriou	7 / GHS09 piratory system, Liver, Kidneys. ategory 4) ory 2) ory 2A) r (Category 1) tity (Category 1) tion: Hazard statement: llowed. ritation. s eye irritation.	P264: Wash hands P270: Do not eat, o P273: Avoid releas P280: Wear protec P301+P330+P312: doctor if you feel u P302+P352: IF ON P305+P351+P338: Remove contact le P332+P313: If skin P337+P313: If sye P362+P364: Take o P391: Collect spilla P501: Dispose of c	s thoroughly after handling. drink or smoke when using this product. se to the environment. tive gloves/protective clothing/eye protection/face protection. : IF SWALLOWED: Rinse mouth. Call a POISON CENTER or nwell. V SKIN: Wash with plenty of water and soap. : IF IN EYES: Rinse cautiously with water for several minutes. enses, if present and easy to do. Continue rinsing. i irritation occurs: Get medical advice/attention. • irritation persists: Get medical advice/attention. off contaminated clothing and wash before reuse. age. zontents/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			
Water	7732-18-5	98.3%	231-791-2			
Cupric chloride, dihydrate	10125-13-0	1.7%	231-210-2 (anhydrous)			
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 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: 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: Absorb with an 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 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, 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 evewash 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 Physical and chen	cal properties	
Appearance: Clear, light blue liquid. Odor: No odor. Odor threshold: Data not available. pH: <1 Melting / Freezing point: Approximately 0°C (32°F) (Boiling point: Approximately 100°C (212°F) (v Flash point: Data not available		Partition coefficient: Data not available Auto-ignition temperature: Data not available Decomposition temperature: Data not available. Viscosity: Data not available. Molecular formula: Mixture Molecular weight: Mixture
Section 10 Stability and react	ritv	

Chemical stability: Stable

Hazardous polymerization: Will not occur.

Conditions to avoid: Hygroscopic material. Avoid exposure or contact to extreme temperatures and incompatible materials.

Incompatible materials: Potassium, sodium, hydrazine, nitromethane, aluminum, strong oxidizers, acetylene and sodium hypobromite.

Hazardous decomposition products: Copper oxides and hydrogen chloride.

Section 11 **Toxicological information**

Acute toxicity: [Copper chloride] Oral-rat LD50: 290 mg/kg ; Oral-human LD50: 200 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: Symptoms of over-exposure may include irritation, sore throat, shortness of breath, ulceration and perforation of the nasal septum and upper respiratory tract irritation.

Ingestion: May cause gastrointestinal irritation with symptoms such as nausea, vomiting and diarrhea.

Skin: Contact with skin may cause symptoms of itching, redness, blistering and possible scarring, dermatitis.

Eyes: Contact with eyes may cause redness, pain and blurred vision. Prolonged contact may cause corneal injury.

Signs and symptoms of exposure: Copper salts impart a metallic taste in the mouth. Damage to the kidneys may occur in person's with Wilson's disease. High

concentrations in contact with skin may result in burns. Chronic exposure may also lead to liver damage, anemia and other blood cell abnormalities.

Additional information: RTECS #: GL7030000 [Copper chloride]

Section 12 Ecological information

Toxicity to fish: Bluegill LC50: 0.9 mg/L/96 hours [Copper chloride]

Toxicity to daphnia and other aquatic invertebrates: Daphnia magna EC50: 0.04 mg/L/48 hours [Copper chloride]

Toxicity to algae: Selenastrum EC50: 0.12 mg/L/96 hours [Copper chloride]

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.

Section 14 Transport information

UN/NA numbe	: UN3082	Shipping name:	RQ, Environme	entally hazardous substa	nce, liquid, n.o.s., (Cupric c	hloride solution)
Hazard class:	9	Packing group:	III	Reportable Quantity:	10 lbs (4.54 kg)	Marine pollutant: Yes
Exceptions: L	imited quantity equ	al to or less than 5	Lt.; Reportable	quantity equal to or more	re than 4.54 Kg	2016 ERG Guide # 171
Section 15	Regulatory info	ormation				

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 This product does not contain Cupric chloride (anhydrous) Listed 10 lbs (4.54 kg) 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.