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V#023426

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Cyanotype  
STORE

## SDS(SAFETY DATA SHEET)

### Section I – Identification

<b>Product identity</b> Cyanotype Art & Science Kit (quart)	
<b>Description</b> A kit with everything you need (aside from water) to make one quart of cyanotype chemistry; great for teaching kids the art and science of cyanotype. The two chemical components listed below are dry powders and have the potential to become airborne when mixing; a mask and a pair of gloves are included for your protection.	
<b>Manufacturer's Name</b> Cyanotype Store	<b>Emergency Telephone Number</b> 1-800-424-9300
<b>Address(Number, Street, City, and ZIP Code)</b> 23630 SW 107th Ave, Vashon 98070	<b>Telephone Number for Information</b> 1-800-894-9410

### Section II – Hazards Identification

Hazardous Components	Ferric Ammonium Citrate	Potassium Ferricyanide
<b>Classification</b>	This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)  WARNING Serious eye damage/eye irritation: Category 2B	This chemical is not considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)  Not a dangerous substance or mixture according to the Globally Harmonized System (GHS)
<b>Other Hazards</b>	Causes mild skin irritation	Contact with acid liberates toxic gas
<b>Precautionary Statements</b>	Wash face, hands and any exposed skin thoroughly after handling  IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If skin irritation occurs: Get medical advice/attention	

### Section III – Composition/Information On Ingredients

Hazardous Components	Ferric Ammonium Citrate	Potassium Ferricyanide
Color	Green	Red
CAS #	1185-57-5	13746-66-2
RTECS#	GE7540000	LJ8225000
ACGIH TLV	N/A	N/A
Other Limits	LD > 2000 mg/kg	LD50 2970 mg/kg
% by Weight	31.25%	15.625%

### Section IV – First Aid Measures

Hazardous Components	Ferric Ammonium Citrate	Potassium Ferricyanide
General Advice	Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126)	Poison information centers in each State capital city can provide additional assistance for scheduled poisons (13 1126)
Skin Contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops. Consult a physician if necessary.	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops. Consult a physician if necessary.
Eye Contact	Flush eye with water for 15 minutes. Get medical attention.	Flush eye with water for 15 minutes. Get medical attention if irritation occurs. If symptoms persist, call a physician.
Inhalation	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.  Get medical attention.	Move to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.  Get medical attention.
Ingestion	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.
Symptoms	Irritating to eyes and skin. Irritating to mouth, throat and stomach. Vomiting. May cause diarrhea.	Health injuries are not known or expected under normal use. Dust may cause respiratory tract irritation. Ingestion of large amounts may cause nausea, vomiting, abdominal pain. May affect the blood.

<b>Symptoms</b>		It may affect the kidneys.
<b>Notes to Physician</b>	Treat symptomatically	Treat symptomatically
<b>First-Aid Providers</b>	First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste	First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

## Section V – Fire Fighting Measures

<b>Hazardous Components</b>	Ferric Ammonium Citrate	Potassium Ferricyanide
<b>Suitable Extinguishing Media</b>	Carbon dioxide (CO2). Dry chemical. Water spray mist or foam.	The product is not flammable. If it is involved in a fire, extinguish the fire using an agent suitable for the type of surrounding fire.
<b>Unsuitable Extinguishing Media</b>	No information available	
<b>Hazardous Combustion Products</b>	Carbon monoxide; Carbon dioxide; iron oxides; ammonia; nitrogen oxides	If involved in a fire, the following can be released: Nitrogen oxides, potassium oxides, iron oxides, carbon monoxide, carbon dioxide
<b>Specific hazards</b>	May be combustible at high temperatures. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.	When heated to decomposition it emits toxic gases and irritating fumes
<b>Specific Protective Methods for Firefighters</b>	No information available	
<b>Special Protective Equipment for Firefighters</b>	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear	

## Section VI – Accidental release measures

<b>Hazardous Components</b>	Ferric Ammonium Citrate	Potassium Ferricyanide
<b>Personal Precautions</b>	Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Avoid dust formation. Remove all sources of ignition.	

<b>Environmental precautions</b>	Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
<b>Methods and material for containment</b>	Stop leak if you can do it without risk. Cover with plastic sheet to prevent spreading.
<b>Methods and material for cleaning up</b>	Sweep up and shovel into suitable containers for disposal. Clean contaminated surface thoroughly.

## Section VII – Handling and storage

<b>Hazardous Components</b>	<b>Ferric Ammonium Citrate</b>	<b>Potassium Ferricyanide</b>
<b>Technical Measures/Precautions For Safe Handling</b>	Provide sufficient air exchange and/or exhaust in work rooms. Avoid dust formation. All equipment used when handling the product must be grounded. Keep away from incompatible materials.	Provide sufficient air exchange and/or exhaust in work rooms. Keep away from incompatible materials.
<b>Safe Handling Advice</b>	Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Avoid dust formation. Do not ingest. Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice.	Wear personal protective equipment. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not ingest. Do not breathe vapours/dust. Handle in accordance with good industrial hygiene and safety practice.
<b>Technical Measures/Storage Conditions</b>	Deliquescent. Protect from moisture. Keep container tightly closed in a dry and well-ventilated place. Protect from light. Sensitive to light. Store in light-resistant containers. Store at room temperature in the original container. Store away from incompatible materials.	Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Protect from light. Sensitive to light. Store in light-resistant containers. Store away from incompatible materials.
<b>Incompatible Materials</b>	Strong oxidizing agents. iodides. tannins. acacia preparations.	Acids. Strong oxidizing agents.

## Section VIII – Exposure controls/personal protection

National occupational exposure limits

### United States

<b>Components</b>	<b>OSHA</b>	<b>NIOSH</b>	<b>ACGIH</b>	<b>AIHA WHEEL</b>
Ferric Ammonium Citrate	None	None	None	None
Potassium Ferricyanide	5 mg/m <sup>3</sup> TWA (as CN)	1 mg/m <sup>3</sup> TWA (as Fe)	1 mg/m <sup>3</sup> TWA (as Fe)	None

**Canada**

Components	Alberta	British Columbia	Ontario	Quebec
Ferric Ammonium Citrate	None	None	None	None
Potassium Ferricyanide	1 mg/m <sup>3</sup> TWA (as Fe)	1 mg/m <sup>3</sup> TWA (as Fe)	1 mg/m <sup>3</sup> TWA (as Fe)	1 mg/m <sup>3</sup> TWAEV (as Fe)

**Australia and Mexico**

Components	Australia	Mexico
Ferric Ammonium Citrate	None	None
Potassium Ferricyanide	1 mg/m <sup>3</sup> TWA (as Fe)	1 mg/m <sup>3</sup> TWA (as Fe) 2 mg/m <sup>3</sup> STEL (as Fe)

**Engineering measures to reduce exposure:** Ensure adequate ventilation. Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.

**Section IX – Physical and chemical properties**

<b>Hazardous Components</b>	Ferric Ammonium Citrate	Potassium Ferricyanide
<b>Physical State</b>	Solid	Solid
<b>Appearance</b>	Powder	Crystalline powder
<b>Color</b>	Green	Red
<b>Odor</b>	Odorless. Faint. Ammonia.	No Information available
<b>Taste</b>	Saline. Mild ferruginous.	
<b>Molecular/Formula weight</b>	No Information available	329.25
<b>Formula</b>	This compound is a complex salt of undetermined structure, composed of Iron, Ammonia, and Citric Acid	K <sub>3</sub> Fe(CN) <sub>6</sub>
<b>Flammability</b>	No Information available	
<b>Flash Point (°C)</b>		
<b>Flash Point(°C/°F)</b>		

Flash Point Testing according to	Not available			
Autoignition Temperature(°C/°F)	No Information available			
Lower Explosion Limit (%)				
Upper Explosion Limit(%)				
pH				
Melting point/range(°C/°F)				
Boiling Point/Range(°C/°F)				
Bulk density				
Decomposition temperature(°C/°F)				
Density (g/cm3)				
Specific gravity			1.8	1.85
Vapor pressure @ 20°C (kPa)	No Information available			
Evaporation rate				
Vapor density				
VOC content (g/L)				
Odor threshold (ppm)			No Information available	
Partition Coefficient (n-octanol/water)				
Viscosity				
Miscibility				
Solubility	Easily soluble in water Practically insoluble in alcohol Solubility in water: 25 g/100 ml @ 20 °C.	Soluble in water		

### Section X – Stability and Reactivity

Hazardous Components	Ferric Ammonium Citrate	Potassium Ferricyanide
Reactivity	Reactive with oxidizing agents	Reactive with acids Contact with acids liberates very toxic gas

<b>Reactivity</b>	Reactive with oxidizing agents	Reactive with strong oxidizing agents  Incompatible with ammonia, chromium trioxide + heat, sodium nitrite + heat, acids, and acid fumes. Sensitive to light.  When heated to decomposition or comes in contact with acid or acid fumes, it emits toxic fumes of cyanides (hydrogen cyanide). It emits toxic fumes of cyanides (hydrogen cyanide), and oxides of nitrogen when heated to decomposition
<b>Chemical Stability</b>	Stable at normal conditions	Stable under recommended storage conditions
<b>Possibility of Hazardous Reactions</b>	Hazardous polymerization does not occur	
<b>Conditions to avoid</b>	Heat. Exposure to light. Exposure to moist air. Exposure to moisture. Avoid dust formation. Dust may form explosive mixture in air. Fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.	Incompatible materials. Exposure to light.
<b>Incompatible Materials</b>	Strong oxidizing agents. iodides. tannins. acacia preparations.	Acids. Strong oxidizing agents.
<b>Hazardous Decomposition Products</b>	Carbon monoxide. Carbon dioxide. iron oxides. Ammonia. Nitrogen oxides (NOx).	Hydrogen cyanide. Carbon monoxide. Carbon dioxide. Iron oxides. Nitrogen oxides (NOx).
<b>Corrosivity</b>	No information available	No information available

## Section XI – Toxicological Information

<b>Hazardous Components</b>	Ferric Ammonium Citrate	Potassium Ferricyanide
<b>Principal Routes of Exposure</b>	Ingestion. Inhalation.	
<b>LD50/oral/rat</b>	>2000 mg/kg	No information available
<b>LD50/oral/mouse</b>	No information available	2970 mg/kg
<b>LD50/dermal/rat</b>	No information available	
<b>LD50/dermal/rabbit</b>		
<b>LC50/inhalation/rat</b>		

<b>LC50/inhalation/mouse</b>	No information available	
<b>Other LD50 or LC50 information</b>		
<b>Skin Contact</b>	Mild skin irritation	May cause skin irritation
<b>Eye Contact</b>	Causes eye irritation	May cause eye irritation
<b>Inhalation</b>	May cause irritation of respiratory tract. May cause nose, throat, and lung irritation. Symptoms may include coughing and wheezing, and shortness of breath.	Inhalation of dust may cause respiratory tract irritation. Symptoms may include coughing and shortness of breath.
<b>Ingestion</b>	Irritating to mouth, throat and stomach  May cause vomiting. May cause hypermotility, diarrhea	May cause gastrointestinal (digestive) tract irritation with nausea, vomiting, diarrhea.  May cause stomach cramping.
<b>Aspiration hazard</b>	No information available	
<b>Chronic Toxicity</b>	Prolonged eye contact may cause a brownish discoloration of the eyes	Prolonged or repeated ingestion may affect the blood (changes in red blood cell count). Prolonged or repeated ingestion may affect the urinary system.
<b>Sensitization</b>	No information available	
<b>Mutagenic Effects</b>	No information available	Mutations in microorganisms  Experiments with bacteria and/or yeast have shown mutagenic effects
<b>Carcinogenic Effects</b>	Not considered carcinogenic	
<b>Reproductive toxicity</b>	No information available	
<b>Specific Target Organ Toxicity</b>	Eyes. Skin. Respiratory system. Gastrointestinal tract. Liver.	No information available

## Section XII – Ecological information

<b>Hazardous Components</b>	Ferric Ammonium Citrate	Potassium Ferricyanide
<b>Ecotoxicity effects</b>	No information available	Aquatic environment
<b>Freshwater Fish Species Data</b>		LC50-Oncorhynchus mykiss(rainbow trout) - 889 mg/l - 96 hr
<b>Water Flea Data</b>		EC50-Daphnia magna(water flea) - 549 mg/l - 48hr



<b>Persistence and degradability</b>	No information available
<b>Bioaccumulative potential</b>	
<b>Mobility</b>	

**Section XVI – Other information**

<b>Ferric Ammonium Citrate</b>		<b>Potassium Ferricyanide</b>	
<b>Health Hazard</b>	1	<b>Health Hazard</b>	2
<b>Fire Hazard</b>	1	<b>Fire Hazard</b>	0
<b>Reactivity</b>	0	<b>Reactivity</b>	0
<b>Indication of danger in accordance with Annex VI to Directive 67/548/EEC</b>	Not dangerous	<b>Indication of danger in accordance with Annex VI to Directive 67/548/EEC</b>	Not dangerous