

SECTION 1: Identification

1.1. Identification

Product form : Mixtures
Product name : Citrate-Cyanide Reducing Solution
Product code : LC13130

1.2. Recommended use and restrictions on use

Use of the substance/mixture : For laboratory and manufacturing use only.
Recommended use : Laboratory chemicals
Restrictions on use : Not for food, drug or household use

1.3. Supplier

LabChem, Inc.
1010 Jackson's Pointe Ct.
Zelienople, PA 16063 - USA
T 412-826-5230 - F 724-473-0647
info@labchem.com - www.labchem.com

1.4. Emergency telephone number

Emergency number : CHEMTREC: 1-800-424-9300 or +1-703-741-5970

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

GHS US classification

Acute toxicity (oral) Category 3	H301 Toxic if swallowed
Acute toxicity (dermal) Category 3	H311 Toxic in contact with skin
Acute toxicity (inhalation:dust,mist) Category 4	H332 Harmful if inhaled
Skin corrosion/irritation Category 1C	H314 Causes severe skin burns and eye damage
Serious eye damage/eye irritation Category 1	H318 Causes serious eye damage
Skin sensitization, Category 1	H317 May cause an allergic skin reaction
Carcinogenicity Category 2	H351 Suspected of causing cancer
Reproductive toxicity Category 2	H361 Suspected of damaging fertility or the unborn child
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335 May cause respiratory irritation
Hazardous to the aquatic environment - Acute Hazard Category 1	H400 Very toxic to aquatic life
Hazardous to the aquatic environment - Chronic Hazard Category 3	H412 Harmful to aquatic life with long lasting effects

Full text of H statements : see section 16

2.2. GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) :

Danger

Hazard statements (GHS US) :

H301+H311 - Toxic if swallowed or in contact with skin
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H351 - Suspected of causing cancer
H361 - Suspected of damaging fertility or the unborn child
H410 - Very toxic to aquatic life with long lasting effects

Precautionary statements (GHS US) :

P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P260 - Do not breathe mist, vapors, spray.
P264 - Wash exposed skin thoroughly after handling.
P270 - Do not eat, drink or smoke when using this product.

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P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P280 - Wear protective gloves, protective clothing, eye protection, face protection.
P301+P330+P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
Contaminated work clothing must not be allowed out of the workplace.
P303+P361+P353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.
P310 - Immediately call a poison center or doctor/physician.
P321 - Specific treatment (see Treatment on this label).
P363 - Wash contaminated clothing before reuse.
P391 - Collect spillage.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P405 - Store locked up.
P501 - Dispose of contents/container to comply with local, state and federal regulations.

2.3. Other hazards which do not result in classification

Other hazards not contributing to the classification : None.

2.4. Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS US classification
Ammonium Hydroxide, ACS	(CAS-No.) 1336-21-6	66.7	Acute Tox. 4 (Oral), H302 Skin Corr. 1C, H314 Eye Dam. 1, H318 STOT SE 3, H335 Aquatic Acute 1, H400
Water	(CAS-No.) 7732-18-5	17.64	Not classified
Ammonium Citrate, Dibasic	(CAS-No.) 3012-65-5	13.33	Skin Irrit. 2, H315 Eye Irrit. 2A, H319
Potassium Cyanide	(CAS-No.) 151-50-8	1.33	Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Repr. 2, H361 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Sodium Sulfite, Anhydrous	(CAS-No.) 7757-83-7	0.67	Skin Irrit. 2, H315 Eye Irrit. 2A, H319
Hydroxylamine Hydrochloride	(CAS-No.) 5470-11-1	0.33	Met. Corr. 1, H290 Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Skin Irrit. 2, H315 Eye Irrit. 2A, H319 Skin Sens. 1, H317 Carc. 2, H351 STOT RE 2, H373 Aquatic Acute 1, H400

Full text of hazard classes and H-statements : see section 16

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Suspected of causing cancer.

First-aid measures after inhalation : Allow affected person to breathe fresh air. Allow the victim to rest. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell. Immediately call a poison center or doctor/physician.

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First-aid measures after skin contact	: Immediately call a poison center or doctor/physician. Wash with plenty of soap and water. Wash contaminated clothing before reuse. Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center or doctor/physician.
First-aid measures after ingestion	: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.

4.2. Most important symptoms and effects (acute and delayed)

Potential Adverse human health effects and symptoms	: Toxic in contact with skin. Harmful if inhaled. Toxic if swallowed.
Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. May cause an allergic skin reaction.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

4.3. Immediate medical attention and special treatment, if necessary

Hospitalize at once. Specific treatment is necessary. Inhalation of amyl nitrate for 15-30 seconds/minute may be life-saving.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions	: Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	: Safety glasses. Gloves. Protective clothing. Combined gas/dust mask with filter type B/P3.
Emergency procedures	: Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment	: Equip cleanup crew with proper protection.
Emergency procedures	: Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
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6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling	: Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Use only outdoors or in a well-ventilated area. Do not breathe mist, vapors, spray. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
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Hygiene measures : Do not eat, drink or smoke when using this product. Wash exposed skin thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.
Storage conditions : Keep only in the original container in a cool, well ventilated place away from : incompatible materials, Heat sources, Direct sunlight. Keep container closed when not in use.
Incompatible products : Strong oxidizers. Strong acids.
Incompatible materials : Sources of ignition. Direct sunlight.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Citrate-Cyanide Reducing Solution	
No additional information available	
Ammonium Citrate, Dibasic (3012-65-5)	
No additional information available	
Potassium Cyanide (151-50-8)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH Ceiling (mg/m ³)	5 mg/m ³
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	5 as CN
USA - IDLH - Occupational Exposure Limits	
IDLH	25 mg/m ³ as CN
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (Ceiling)	5 mg/m ³ 10 min., as CN
NIOSH REL C [ppm]	4.7 ppm 10 min., as CN
Sodium Sulfite, Anhydrous (7757-83-7)	
No additional information available	
Hydroxylamine Hydrochloride (5470-11-1)	
No additional information available	
Ammonium Hydroxide, ACS (1336-21-6)	
USA - ACGIH - Occupational Exposure Limits	
ACGIH OEL TWA	17 mg/m ³
ACGIH STEL (mg/m ³)	24 mg/m ³
USA - OSHA - Occupational Exposure Limits	
OSHA PEL (TWA) [1]	35 mg/m ³
OSHA PEL (TWA) [2]	50 ppm
USA - IDLH - Occupational Exposure Limits	
IDLH [ppm]	300 ppm
USA - NIOSH - Occupational Exposure Limits	
NIOSH REL (TWA)	18 mg/m ³
NIOSH REL TWA [ppm]	25 ppm
NIOSH REL (STEL)	27 mg/m ³
NIOSH REL STEL [ppm]	35 ppm
Water (7732-18-5)	
No additional information available	

8.2. Appropriate engineering controls

Appropriate engineering controls : Emergency eye wash fountains should be available in the immediate vicinity of any potential exposure. Provide adequate general and local exhaust ventilation. Gas detectors should be used when toxic gases may be released.

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8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Gloves. Safety glasses. Gas mask. Chemical resistant apron.

Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or face shield

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Wear respiratory protection. Gas mask. Self-contained breathing apparatus if conc. in air > 250 ppm

Personal protective equipment symbol(s):



Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Color	: Colorless
Odor	: characteristic Ammoniacal.
Odor threshold	: No data available
pH	: No data available
Melting point	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Solubility	: Soluble in water.
Log Pow	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
No data availableViscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosion limits	: No data available
Explosive properties	: No data available
Oxidizing properties	: No data available

9.2. Other information

No additional information available

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SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapors.

10.2. Chemical stability

Not established.

10.3. Possibility of hazardous reactions

Contact with acids liberates very toxic gas.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

Strong acids. Strong oxidizers.

10.6. Hazardous decomposition products

Hydrogen cyanide. Carbon monoxide. Carbon dioxide. Gaseous ammonia.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Toxic if swallowed.
Acute toxicity (dermal) : Toxic in contact with skin.
Acute toxicity (inhalation) : Harmful if inhaled.

Citrate-Cyanide Reducing Solution	
LD50 oral rat	240 mg/kg
LD50 dermal rat	460 mg/kg
LC50 Inhalation - Rat	3.73 mg/l/4h
ATE US (oral)	240 mg/kg body weight
ATE US (dermal)	460 mg/kg body weight
ATE US (vapors)	3.73 mg/l/4h
ATE US (dust, mist)	3.73 mg/l/4h

Potassium Cyanide (151-50-8)	
LD50 oral rat	≥ 7.49 mg/kg body weight (Other, Rat, Female, Experimental value, Oral)
LD50 dermal rabbit	14.63 mg/kg (6 h, Rabbit, Female, Read-across, Dermal)
LC50 Inhalation - Rat [ppm]	63 ppm (Equivalent or similar to OECD 403, 1 h, Rat, Male, Read-across, expert judgement: not relevant, Inhalation (gases))
ATE US (oral)	5 mg/kg body weight
ATE US (dermal)	14.63 mg/kg body weight
ATE US (gases)	63 ppmV/4h
ATE US (vapors)	0.5 mg/l/4h
ATE US (dust, mist)	0.05 mg/l/4h

Sodium Sulfite, Anhydrous (7757-83-7)	
LD50 oral rat	2610 mg/kg
LC50 Inhalation - Rat	> 5.5 mg/l/4h
ATE US (oral)	2610 mg/kg body weight

Hydroxylamine Hydrochloride (5470-11-1)	
LD50 oral rat	200 – 2000 mg/kg (Rat, Oral)
LD50 dermal rabbit	400 – 2000 mg/kg (Rabbit, Dermal)
ATE US (oral)	200 mg/kg body weight
ATE US (dermal)	400 mg/kg body weight

Ammonium Hydroxide, ACS (1336-21-6)	
LD50 oral rat	350 mg/kg
ATE US (oral)	350 mg/kg body weight

Water (7732-18-5)	
LD50 oral rat	≥ 90000 mg/kg

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Water (7732-18-5)	
ATE US (oral)	90000 mg/kg body weight

Skin corrosion/irritation	: Causes severe skin burns.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.

Sodium Sulfite, Anhydrous (7757-83-7)	
IARC group	3 - Not classifiable

Reproductive toxicity	: Suspected of damaging fertility or the unborn child.
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STOT-single exposure	: May cause respiratory irritation.
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Ammonium Hydroxide, ACS (1336-21-6)	
STOT-single exposure	May cause respiratory irritation.

STOT-repeated exposure	: Not classified
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Hydroxylamine Hydrochloride (5470-11-1)	
STOT-repeated exposure	May cause damage to organs (blood) through prolonged or repeated exposure.

Aspiration hazard	: Not classified
Viscosity, kinematic	: No data available
Likely routes of exposure	: Inhalation. Skin and eye contact.
Potential Adverse human health effects and symptoms	: Toxic in contact with skin. Harmful if inhaled. Toxic if swallowed.
Symptoms/effects	: Causes severe skin burns and eye damage.
Symptoms/effects after inhalation	: Danger of serious damage to health by prolonged exposure through inhalation. Harmful if inhaled. May cause an allergic skin reaction.
Symptoms/effects after skin contact	: Repeated exposure to this material can result in absorption through skin causing significant health hazard. Harmful in contact with skin.
Symptoms/effects after eye contact	: Causes serious eye damage.
Symptoms/effects after ingestion	: Toxic if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

Citrate-Cyanide Reducing Solution	
LC50 fish 1	0.012 mg/l

Potassium Cyanide (151-50-8)	
LC50 fish 1	103.8 µg/l (ASTM E729-96, 96 h, Gasterosteus aculeatus, Flow-through system, Fresh water, Read-across, Lethal)

Sodium Sulfite, Anhydrous (7757-83-7)	
LC50 fish 1	220 – 460 mg/l

12.2. Persistence and degradability

Citrate-Cyanide Reducing Solution	
Persistence and degradability	Not established.

Ammonium Citrate, Dibasic (3012-65-5)	
Persistence and degradability	Not established.

Potassium Cyanide (151-50-8)	
Persistence and degradability	Inherently biodegradable.

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Potassium Cyanide (151-50-8)	
Chemical oxygen demand (COD)	0.614 g O ₂ /g substance
BOD (% of ThOD)	0 (7 day(s), Literature study)
Sodium Sulfite, Anhydrous (7757-83-7)	
Persistence and degradability	Not established.
Hydroxylamine Hydrochloride (5470-11-1)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable
Ammonium Hydroxide, ACS (1336-21-6)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Water (7732-18-5)	
Persistence and degradability	Not established.

12.3. Bioaccumulative potential

Citrate-Cyanide Reducing Solution	
Bioaccumulative potential	Not established.
Ammonium Citrate, Dibasic (3012-65-5)	
Log Pow	-2.84
Bioaccumulative potential	Not established.
Potassium Cyanide (151-50-8)	
BCF other aquatic organisms 1	3.162 l/kg (BCFBAF v3.00, Read-across)
Bioaccumulative potential	Not bioaccumulative.
Sodium Sulfite, Anhydrous (7757-83-7)	
Bioaccumulative potential	Not established.
Hydroxylamine Hydrochloride (5470-11-1)	
Bioaccumulative potential	Not bioaccumulative.
Ammonium Hydroxide, ACS (1336-21-6)	
Bioaccumulative potential	Does not contain bioaccumulative component(s).
Water (7732-18-5)	
Bioaccumulative potential	Not established.

12.4. Mobility in soil

Potassium Cyanide (151-50-8)	
Surface tension	No data available in the literature
Ecology - soil	Highly mobile in soil.
Ammonium Hydroxide, ACS (1336-21-6)	
Ecology - soil	No (test)data on mobility of the component(s) available.

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to comply with local, state and federal regulations.
Ecology - waste materials	: Avoid release to the environment. Hazardous waste due to toxicity.

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SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description	: UN1935 Cyanide solutions, n.o.s. (Potassium cyanide), 6.1, III
UN-No.(DOT)	: UN1935
Proper Shipping Name (DOT)	: Cyanide solutions, n.o.s. Potassium cyanide
Transport hazard class(es) (DOT)	: 6.1 - Class 6.1 - Poisonous materials 49 CFR 173.132
Packing group (DOT)	: III - Minor Danger
Hazard labels (DOT)	: 6.1 - Poison



Dangerous for the environment	: Yes
Marine pollutant	: Yes



DOT Packaging Non Bulk (49 CFR 173.xxx)	: 203
DOT Packaging Bulk (49 CFR 173.xxx)	: 241
DOT Special Provisions (49 CFR 172.102)	: IB3 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1 and 31HA2, 31HB2, 31HN2, 31HD2 and 31HH2). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized, except for UN2672 (also see Special Provision IP8 in Table 2 for UN2672). T7 - 4 178.274(d)(2) Normal..... 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively. TP13 - Self-contained breathing apparatus must be provided when this hazardous material is transported by sea. TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx)	: 153
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 60 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 220 L
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters", 52 - Stow "separated from" acids
Emergency Response Guide (ERG) Number	: 157
Other information	: No supplementary information available.

Transport by sea (IMDG)

UN-No. (IMDG)	: 1935
Proper Shipping Name (IMDG)	: CYANIDE SOLUTION, N.O.S.
Class (IMDG)	: 6.1 - Toxic substances

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Packing group (IMDG) : III - substances presenting low danger
Limited quantities (IMDG) : 5 L
Marine pollutant : Yes



Air transport (IATA/ICAO)

UN-No. (IATA) : 1935
Proper Shipping Name (IATA) : Cyanide solution, n.o.s.
Class (IATA) : 6.1 - Toxic Substances
Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

Citrate-Cyanide Reducing Solution	
SARA Section 311/312 Hazard Classes	Health hazard - Serious eye damage or eye irritation Health hazard - Skin corrosion or Irritation Health hazard - Acute toxicity (any route of exposure) Health hazard - Carcinogenicity Health hazard - Respiratory or skin sensitization Health hazard - Reproductive toxicity Health hazard - Specific target organ toxicity (single or repeated exposure)

All components of this product are listed as Active, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Ammonium Citrate, Dibasic	CAS-No. 3012-65-5	13.33%
Potassium Cyanide	CAS-No. 151-50-8	1.33%
Sodium Sulfite, Anhydrous	CAS-No. 7757-83-7	0.67%
Hydroxylamine Hydrochloride	CAS-No. 5470-11-1	0.33%
Ammonium Hydroxide, ACS	CAS-No. 1336-21-6	66.7%
Water	CAS-No. 7732-18-5	17.64%

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.

Potassium Cyanide	CAS-No. 151-50-8	1.33%
Ammonium Hydroxide, ACS	CAS-No. 1336-21-6	66.7%

Ammonium Citrate, Dibasic (3012-65-5)

RQ (Reportable quantity, section 304 of EPA's List of Lists)	5000 lb
SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard

Potassium Cyanide (151-50-8)

RQ (Reportable quantity, section 304 of EPA's List of Lists)	10 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	100 lb
SARA Section 311/312 Hazard Classes	Health hazard - Acute toxicity (any route of exposure) Health hazard - Serious eye damage or eye irritation Health hazard - Skin corrosion or Irritation Health hazard - Reproductive toxicity

Sodium Sulfite, Anhydrous (7757-83-7)

SARA Section 311/312 Hazard Classes	Health hazard - Skin corrosion or Irritation Health hazard - Serious eye damage or eye irritation
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Hydroxylamine Hydrochloride (5470-11-1)	
SARA Section 311/312 Hazard Classes	Physical hazard - Corrosive to metals Health hazard - Acute toxicity (any route of exposure) Health hazard - Skin corrosion or Irritation Health hazard - Serious eye damage or eye irritation Health hazard - Respiratory or skin sensitization Health hazard - Carcinogenicity Health hazard - Specific target organ toxicity (single or repeated exposure)
Ammonium Hydroxide, ACS (1336-21-6)	
RQ (Reportable quantity, section 304 of EPA's List of Lists)	1000 lb
SARA Section 311/312 Hazard Classes	Health hazard - Acute toxicity (any route of exposure) Health hazard - Skin corrosion or Irritation Health hazard - Serious eye damage or eye irritation

15.2. International regulations

CANADA

Ammonium Citrate, Dibasic (3012-65-5)	
Listed on the Canadian DSL (Domestic Substances List)	
Potassium Cyanide (151-50-8)	
Listed on the Canadian DSL (Domestic Substances List)	
Sodium Sulfite, Anhydrous (7757-83-7)	
Listed on the Canadian DSL (Domestic Substances List)	
Hydroxylamine Hydrochloride (5470-11-1)	
Listed on the Canadian DSL (Domestic Substances List)	
Water (7732-18-5)	
Listed on the Canadian DSL (Domestic Substances List)	

EU-Regulations

No additional information available

National regulations

No additional information available

15.3. US State regulations

 **WARNING:** This product can expose you to Potassium Cyanide, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

SECTION 16: Other information

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date : 08/10/2021

Other information : None.

Citrate-Cyanide Reducing Solution

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Full text of H- and EUH-statements: see section 16:

H290	May be corrosive to metals
H300	Fatal if swallowed
H301	Toxic if swallowed
H302	Harmful if swallowed
H310	Fatal in contact with skin
H311	Toxic in contact with skin
H312	Harmful in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H319	Causes serious eye irritation
H330	Fatal if inhaled
H332	Harmful if inhaled
H335	May cause respiratory irritation
H351	Suspected of causing cancer
H361	Suspected of damaging fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H412	Harmful to aquatic life with long lasting effects

NFPA health hazard

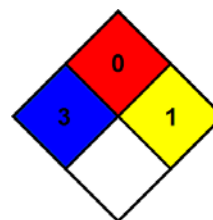
: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.

NFPA fire hazard

: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.

NFPA reactivity

: 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.



Hazard Rating

Health

: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given

Flammability

: 0 Minimal Hazard - Materials that will not burn

Physical

: 1 Slight Hazard - Materials that are normally stable but can become unstable (self-react) at high temperatures and pressures. Materials may react non-violently with water or undergo hazardous polymerization in the absence of inhibitors.

Personal protection

: H
H - Splash goggles, Gloves, Synthetic apron, Vapor respirator

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