

CYANOGEN BROMIDE

GHS Safety Data Sheet

Version No:4.1.1.1

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

CYANOGEN BROMIDE

OTHER NAMES

Br-C-N, BrCN, "bromine cyanide", bromocyan, bromocyanide, bromocyanogen, campilit, cyanobromide, "cyanogen monobromide"

PROPER SHIPPING NAME

CYANOGEN BROMIDE

PRODUCT USE

Organic synthesis, parasiticide, fumigating compositions, rat exterminants, cyaniding reagent in gold extraction process. For selective peptide cleavage, e.g. methionine, and for use in protein immobilisation procedures.

SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V.Ind.Estate,

248, Worli Road,

Mumbai- 400030, India

www.sdfine.com

Telephone: 91- 22 24959898/99

Fax: 91- 22 2493 7232

Email: technical@sdfine.com

Section 2 - HAZARDS IDENTIFICATION

GHS Classification

Acute Toxicity Category 1

Acute Toxicity Category 2

Acute Toxicity Category 2

Chronic Aquatic Hazard Category 1

Metal Corrosion Category 1

Serious Eye Damage Category 1

Skin Corrosion/Irritation Category 1B



EMERGENCY OVERVIEW

HAZARD

DANGER

H290

May be corrosive to metals.

H300

Fatal if swallowed.

H310

Fatal in contact with skin.

H314

Causes severe skin burns and eye damage.

H318

Causes serious eye damage.

H330

Fatal if inhaled.

H410

Very toxic to aquatic life with long lasting effects.

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Section 2 - HAZARDS IDENTIFICATION

PRECAUTIONARY STATEMENTS

Prevention

Code	Phrase
P234	Keep only in original container.
P260	Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash ... thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
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.
P284	Wear respiratory protection.

Response

Code	Phrase
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P350	IF ON SKIN: Gently wash with plenty of soap and water.
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 victim to fresh air and keep at rest in a position 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.
P310	Immediately call a POISON CENTER or doctor/physician.
P320	Specific treatment is urgent (see MSDS).
P330	Rinse mouth.
P361	Remove/Take off immediately all contaminated clothing.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.
P391	Collect spillage.

Storage

Code	Phrase
P403+P233	Store in a well- ventilated place. Keep container tightly closed.
P405	Store locked up.
P406	Store in corrosive resistant container or with a resistant inner liner.

Disposal

Code	Phrase
P501	Dispose of contents/container to ...

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
cyanogen bromide	506-68-3	>98
undergoes slow hydrolysis to give		
hydrogen cyanide	74-90-8	
hydrogen bromide	10035-10-6	

Section 4 - FIRST AID MEASURES

SWALLOWED

■ IMPORTANT: ESTABLISH A FIRST AID PLAN BEFORE WORKING WITH CYANIDES.
ANTIDOTES SHOULD BE AVAILABLE ON SITE.

- Prompt response in an emergency is vital.
- All workers are to be trained and refresher trained in procedures.

For cyanide poisonings by any route:

- Contact Poisons Advisory Centre or a doctor.
- Seek immediate medical attention.
- Place casualty in coma position.
- Give oxygen when available.

EYE

- If this product comes in contact with the eyes:
- Immediately hold eyelids apart and flush the eye continuously with running water.
- Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

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Section 4 - FIRST AID MEASURES

- Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.
- Transport to hospital or doctor without delay.

SKIN

- If skin or hair contact occurs:
- Immediately flush body and clothes with large amounts of water, using safety shower if available.
- Quickly remove all contaminated clothing, including footwear.
- Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.
- Transport to hospital, or doctor.

INHALED

- If fumes or combustion products are inhaled remove from contaminated area.
- Lay patient down. Keep warm and rested.
- Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.
- Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.
- Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.
- Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).
- As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.
- Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.

NOTES TO PHYSICIAN

- For cyanide intoxication (and for certain nitriles which produce cyanide ion)
- Signs symptoms of acute cyanide poisoning reflect cellular hypoxia and are often non-specific.
- Cyanosis may be a late finding.
- A bradycardic, hypertensive and tachypneic patient suggests poisoning especially if CNS and cardiovascular depression subsequently occurs.
- Immediate attention should be directed towards assisted ventilation, administration of 100% oxygen, insertion of intravenous lines and institution of cardiac monitoring.

Section 5 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

- Alcohol stable foam.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- Use fire fighting procedures suitable for surrounding area.

FIRE/EXPLOSION HAZARD

- Combustion products include: carbon monoxide (CO), carbon dioxide (CO₂), hydrogen bromide, nitrogen oxides (NO_x), other pyrolysis products typical of burning organic material.
May emit poisonous fumes.
- Solid which exhibits difficult combustion or is difficult to ignite.
- Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion.
- Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited; once initiated larger particles up to 1400 microns diameter will contribute to the propagation of an explosion.
- A dust explosion may release of large quantities of gaseous products; this in turn creates a subsequent pressure rise of explosive force capable of damaging plant and buildings and injuring people.

FIRE INCOMPATIBILITY

- Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result.

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Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

- Environmental hazard - contain spillage.
- Clean up waste regularly and abnormal spills immediately.
- Avoid breathing dust and contact with skin and eyes.
- Wear protective clothing, gloves, safety glasses and dust respirator.
- Use dry clean up procedures and avoid generating dust.

MAJOR SPILLS

- Environmental hazard - contain spillage.
 - Clear area of personnel and move upwind.
 - Alert Fire Brigade and tell them location and nature of hazard.
 - Wear full body protective clothing with breathing apparatus.
 - Prevent, by any means available, spillage from entering drains or water course.
- Personal Protective Equipment advice is contained in Section 8 of the MSDS.**

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions)
- Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame.
- Establish good housekeeping practices.
- Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds.

SUITABLE CONTAINER

- Glass container is suitable for laboratory quantities.
- Lined metal can, lined metal pail/ can.
- Plastic pail.
- Polyliner drum.
- Packing as recommended by manufacturer.

For low viscosity materials

- Drums and jerricans must be of the non-removable head type.
- Where a can is to be used as an inner package, the can must have a screwed enclosure. <</>.

All inner and sole packagings for substances that have been assigned to Packaging Groups I or II on the basis of inhalation toxicity criteria, must be hermetically sealed.

STORAGE INCOMPATIBILITY

■ Cyanogen bromide:

- may polymerise
- may be unstable unless dry and pure - impure material decomposes rapidly and tends to explode
- reacts violently with acids, ammonia, amines, phosgene.

Hydrogen bromide:

- reacts with water to produce hydrobromic acid
- reacts violently with bases, ammonia, ferric oxide, strong oxidisers, fluorine, oxygen, nitrogen chloride and many organic compounds
- dry gas is incompatible with methyl vinyl ester
- aqueous solution is incompatible with aliphatic amines, alkanolamines, alkylene oxides, aromatic amines, amides, calcium oxide, epichlorohydrin, isocyanates, oleum, organic anhydrides, sulfuric acid, sodium tetrahydroborate, vinyl acetate.

Hydrogen cyanide:

- can be self-reactive, forming an explosive mixture with air (flash point -18 C.)
- unless inhibited, material stored more than 90 days may be hazardous
- when heated above 180 C. or in contact with alkalis or amines can polymerise explosively
- reacts violently with strong oxidisers, acetaldehyde.
- Nitriles may polymerise in the presence of metals and some metal compounds.
- They are incompatible with acids; mixing nitriles with strong oxidising acids can lead to extremely violent reactions.
- Nitriles are generally incompatible with other oxidising agents such as peroxides and epoxides.
- The combination of bases and nitriles can produce hydrogen cyanide. Nitriles are hydrolysed exothermally in both aqueous acid and base to give carboxylic acids (or salts of carboxylic acids).
- Contact with acids produces toxic fumes.
- Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.

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Section 7 - HANDLING AND STORAGE

WARNING:

May decompose violently or explosively on contact with other substances.

- This substance, or one of its components, is one of the relatively few compounds which are described as "endothermic" i.e. heat is absorbed into the compound, rather than released from it, during its formation.
- The majority of endothermic compounds are thermodynamically unstable and may decompose explosively under various circumstances of initiation.
- Many but not all endothermic compounds have been involved in decompositions, reactions and explosions and, in general, compounds with significantly positive values of standard heats of formation, may be considered suspect on stability grounds.

BRETHERRICK L.: Handbook of Reactive Chemical Hazards.

- Segregate from alcohol, water.
- Avoid reaction with oxidising agents.
- NOTE: May develop pressure in containers; open carefully. Vent periodically.

STORAGE REQUIREMENTS

- Store in original containers.
- Keep containers securely sealed.
- Store in a cool, dry, well-ventilated area.
- Store away from incompatible materials and foodstuff containers.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA mg/m ³	Peak ppm	Peak mg/m ³	Notes
India Permissible Levels of Certain Chemical Substances in Work Environment	cyanogen bromide (Cyanide (as CN))	5			Skin
India Permissible Levels of Certain Chemical Substances in Work Environment	hydrogen cyanide (Hydrogen cyanide)		10	10	Skin

The following materials had no OELs on our records

- hydrogen bromide: CAS:10035- 10- 6

MATERIAL DATA

CYANOGEN BROMIDE:

HYDROGEN BROMIDE:

- for hydrogen bromide:

Based on the results of controlled exposures of human volunteers, the recommended TLV-C should minimise even transient irritation and complaints which tend to decrease work efficiency. There is no implication that brief, small excursions above the ceiling are life-threatening or have the potential to create permanent harm.

Odour Safety Factor(OSF)

OSF=1 (HYDROGEN BROMIDE).

CYANOGEN BROMIDE:

HYDROGEN CYANIDE:

- Hydrocyanic acid (hydrogen cyanide) Odour threshold: 0.2 - 5.0 ppm., recognition 2.0 - 5.0 ppm.

NOTE: Detector tubes for hydrocyanic acid, measuring in excess of 2 ppm, are commercially available.

The recommended TLV-C is thought to provide protection against the significant risk of headache, fatigue, colic and nervousness observed in individuals exposed at 10 ppm in a full working shift.

CYANOGEN BROMIDE:

CEL TWA: 0.5 ppm, 2.2 mg/m3

[CHRIS]

PERSONAL PROTECTION



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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

RESPIRATOR

• Type B-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

EYE

- Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure
- Chemical goggles whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted
- Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.
- Alternatively a gas mask may replace splash goggles and face shields.

HANDS/FEET

- Elbow length PVC gloves.

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

OTHER

- Overalls.
- PVC Apron.
- PVC protective suit may be required if exposure severe.
- Eyewash unit.

ENGINEERING CONTROLS

■ Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.

The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Solid crystals, colourless, penetrating odour, corrodes most metals. Slightly soluble in water with decomposition and release of toxic gases. Soluble in alcohol, benzene and ether.

PHYSICAL PROPERTIES

Solid.

Corrosive.

Contact with acids liberates very toxic gas.

State	Divided solid	Molecular Weight	105.93
Melting Range (°C)	52	Viscosity	Not Applicable
Boiling Range (°C)	61.4	Solubility in water (g/L)	Reacts
Flash Point (°C)	65	pH (1% solution)	Not available
Decomposition Temp (°C)	Not Available	pH (as supplied)	Not applicable
Autoignition Temp (°C)	Not available.	Vapour Pressure (kPa)	13.3 @ 22.6 C
Upper Explosive Limit (%)	Not Available	Specific Gravity (water=1)	2.015 @ 20/4 C
Lower Explosive Limit (%)	Not Available	Relative Vapour Density (air=1)	3.6
Volatile Component (%vol)	Not applicable.	Evaporation Rate	Not available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

- Presence of incompatible materials.
- Product is considered stable.
- Hazardous polymerisation will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

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CYANOGEN BROMIDE

Section 11 - TOXICOLOGICAL INFORMATION

Health hazard summary table:

Acute toxicity	Acute Tox. (dermal) 1 Acute Tox. (inhal) 2 Acute Tox. (oral) 2
Skin corrosion/irritation	Skin Corr. 1 B
Serious eye damage/irritation	Eye Dam. 1
Respiratory or skin sensitization	Not applicable
Germ cell mutagenicity	Not applicable
Carcinogenicity	Not applicable
Reproductive toxicity	Not applicable
STOT- single exposure	Not applicable
STOT- repeated exposure	Not applicable
Aspiration hazard	Not applicable

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

- Severely toxic effects may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 5 gram may be fatal or may produce serious damage to the health of the individual.
 - The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.
 - Cyanide poisoning can cause increased saliva output, nausea without vomiting, anxiety, confusion, vertigo, dizziness, stiffness of the lower jaw, convulsions, spasm, paralysis, coma and irregular heartbeat, and stimulation of breathing followed by failure. Often the skin becomes cyanosed (blue-grey), and this is often delayed.
 - Nitrile poisoning exhibits similar symptoms to poisoning due to hydrogen cyanide.
- The substances irritate the eyes and skin, and are absorbed quickly and completely through the skin.

EYE

- The material can produce chemical burns to the eye following direct contact.
- Vapours or mists may be extremely irritating.
- If applied to the eyes, this material causes severe eye damage.

SKIN

- Skin contact with the material may produce severely toxic effects; systemic effects may result following absorption and these may be fatal.
- The material can produce chemical burns following direct contact with the skin.
- Open cuts, abraded or irritated skin should not be exposed to this material.
- Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

- Inhalation of vapours, aerosols (mists, fumes) or dusts, generated by the material during the course of normal handling, may produce severely toxic effects; these may be fatal.
 - Exposure by inhalation at high concentrations of cyanogen bromide may cause death.
- However, as cyanogen bromide is extremely irritating it is unlikely that anyone would voluntarily remain in areas with high enough concentrations to exert a cyanide effect.
- Effects and symptoms caused by hydrogen cyanide depends on the intensity and duration of exposure.
- Short term inhalation of 20-40 ppm hydrogen cyanide may result in slight symptoms, while 270 ppm can be fatal in one minute.
- The material can cause respiratory irritation in some persons.
- The body's response to such irritation can cause further lung damage.

CHRONIC HEALTH EFFECTS

- Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.

There is some evidence from animal testing that exposure to this material may result in toxic effects to the unborn baby. Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Prime symptom is breathlessness; lung shadows show on X-ray. Chronic intoxication with ionic bromides, historically, has resulted from medical use of bromides but not from environmental or occupational exposure; depression, hallucinosis, and schizophreniform psychosis can be seen in the absence of other signs of intoxication. Bromides may also induce sedation, irritability, agitation, delirium, memory loss, confusion, disorientation, forgetfulness (aphasias), dysarthria, weakness, fatigue, vertigo, stupor, coma, decreased appetite, nausea and vomiting, diarrhoea, hallucinations, an acne like rash on the face, legs and trunk, known as bronchoderma (seen in 25-30% of case involving bromide ion), and a profuse discharge from the nostrils (coryza).

Chronic exposure to cyanides and certain nitriles may result in interference to iodine uptake by thyroid gland and its consequent enlargement. This occurs following metabolic conversion of the cyanide moiety to thiocyanate. Thyroid insufficiency may also occur as a result of metabolic conversion of cyanides to the corresponding thiocyanate. Exposure to small amounts of cyanide compounds over long periods are reported to cause loss of appetite, headache, weakness, nausea, dizziness, abdominal pain,

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Section 11 - TOXICOLOGICAL INFORMATION

changes in taste and smell, muscle cramps, weight loss, flushing of the face, persistent runny nose and irritation of the upper respiratory tract and eyes. These symptoms are not specific to cyanide exposure and therefore the existence of a chronic cyanide toxicity remains speculative. Repeated minor contact with cyanides produce a characteristic rash with itching, papules (small, superficial raised spots on the skin) and possible sensitisation. Concerns have been expressed that low-level, long term exposures may result in damage to the nerves of the eye.

Repeated or prolonged exposure to acids may result in the erosion of teeth, swelling and/or ulceration of mouth lining.

Irritation of airways to lung, with cough, and inflammation of lung tissue often occurs. Chronic exposure may inflame the skin or conjunctiva.

TOXICITY AND IRRITATION

■ Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound.

SKIN

cyanogen bromide	India Permissible Levels of Certain Chemical Substances in Work Environment - Skin	Notes	Skin
hydrogen cyanide	India Permissible Levels of Certain Chemical Substances in Work Environment - Skin	Notes	Skin

Section 12 - ECOLOGICAL INFORMATION

May cause long-term adverse effects in the environment.

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

This material and its container must be disposed of as hazardous waste.

Avoid release to the environment.

Refer to special instructions/ safety data sheets.

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
hydrogen cyanide	No Data Available	No Data Available	LOW	No Data Available
hydrogen bromide	No Data Available	No Data Available	No Data Available	No Data Available

Section 13 - DISPOSAL CONSIDERATIONS

• Containers may still present a chemical hazard/ danger when empty.

• Return to supplier for reuse/ recycling if possible.

Otherwise:

• If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.

• Where possible retain label warnings and MSDS and observe all notices pertaining to the product.

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.

A Hierarchy of Controls seems to be common - the user should investigate:

• Reduction.

• DO NOT allow wash water from cleaning or process equipment to enter drains.

• It may be necessary to collect all wash water for treatment before disposal.

• In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.

• Where in doubt contact the responsible authority.

• Recycle wherever possible.

• Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.

• Treat and neutralise at an approved treatment plant. Treatment should involve: Mixing or slurring in water; Neutralisation followed by: burial in a land-fill specifically licenced to accept chemical and / or pharmaceutical wastes or Incineration in a licenced apparatus (after admixture with suitable combustible material)

• Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

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Section 14 - TRANSPORTATION INFORMATION



Labels Required: TOXIC,CORROSIVE

HAZCHEM:

2XE

Land Transport UNDG:

Class or division: 6.1
UN No.: 1889
Shipping Name: CYANOGEN BROMIDE

Subsidiary risk: 8
UN packing group: I

Air Transport IATA:

ICAO/IATA Class: 6.1
UN/ID Number: 1889
Special provisions: A2
Cargo Only
Packing Instructions: Forbidden
Passenger and Cargo
Packing Instructions: Forbidden
Passenger and Cargo
Limited Quantity
Packing Instructions: Forbidden

ICAO/IATA Subrisk: 8
Packing Group: -
Maximum Qty/Pack: Forbidden
Passenger and Cargo
Maximum Qty/Pack: Forbidden
Passenger and Cargo
Limited Quantity
Maximum Qty/Pack: Forbidden

Shipping name: CYANOGEN BROMIDE

Maritime Transport IMDG:

IMDG Class: 6.1
UN Number: 1889
EMS Number: F- A, S- B
Limited Quantities: 0
Shipping name: CYANOGEN BROMIDE

IMDG Subrisk: 8- P
Packing Group: I
Special provisions: None
Marine Pollutant: Yes

Section 15 - REGULATORY INFORMATION

REGULATIONS

Regulations for ingredients

hydrogen cyanide (CAS: 74-90-8) is found on the following regulatory lists;

"International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft"

Section 16 - OTHER INFORMATION

The above information is believed to be accurate and represent the best information currently available to us, but does not represent any warranty expressed or implied of the properties of the product. User should make their own investigation to determine the suitability of the information for their particular purpose

Issue Date: 3-May-2018