

# ETHYLENE CHLOROHYDRIN

GHS Safety Data Sheet

Version No:3

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## Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

### PRODUCT NAME

2-CHLOROETHANOL

### OTHER NAMES

C2-H5-Cl-O, ClCH<sub>2</sub>CH<sub>2</sub>OH, "ethylene chlorohydrin", "ethylene chlorhydrin", 2-chlorethanol, 2-chlorethanol, "beta-chloroethyl alcohol", "2-chloroethyl alcohol", "2-chloroethyl alcohol", "ethylene glycol, chlorohydrin", "glycol chlorohydrin", glycolmonochlorhydrin, "glycol monochlorohydrin", 2-monochloroethanol, 2-monochloroethanol, "ethanol, 2-chloro-", "ethanol, 2-chloro-"

### PROPER SHIPPING NAME

ETHYLENE CHLOROHYDRIN

### PRODUCT USE

Solvent for cellulose acetate, ethylcellulose; introduction of hydroxyethyl group in organic synthesis, to activate sprouting of dormant potatoes, manufacture of ethylene oxide and ethylene glycol, insecticides. Formed during sterilisation of food products (grains, spices), drugs and surgical and ophthalmic supplies with ethylene oxide.

### SUPPLIER

Company: S D FINE- CHEM LIMITED

Address:

315- 317, T.V. INDUSTRIAL ESTATE,

248, WORLI,

MUMBAI- 400030.INDIA.

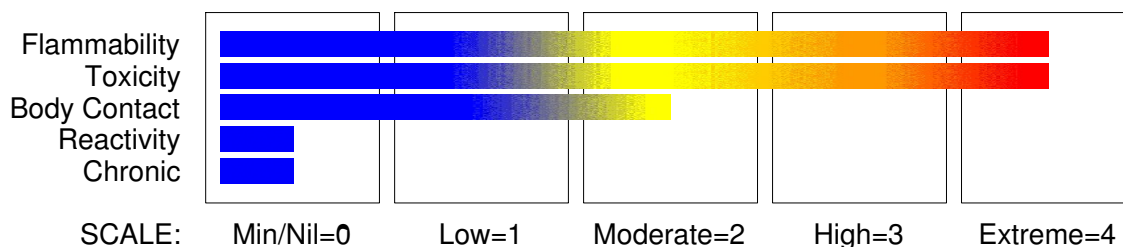
technical@sdfine.com

Telephone: 91- 22- 24959898

Telephone: 91- 22- 24959899

Fax: 91- 22- 24937232

### HAZARD RATINGS



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## Section 2 - HAZARDS IDENTIFICATION

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### GHS Classification

Acute Toxicity (Dermal) Category 1  
Acute Toxicity (Inhalation) Category 1  
Acute Toxicity (Oral) Category 2  
Eye Irritation Category 2A  
Flammable Liquid Category 2  
Skin Corrosion/Irritation Category 3



### EMERGENCY OVERVIEW

#### HAZARD

DANGER

Determined by using GHS criteria:

H225 H330 H310 H300 H316 H319

Highly flammable liquid and vapour

Fatal if inhaled

Fatal in contact with skin

Fatal if swallowed

Causes mild skin irritation

Causes serious eye irritation

#### PRECAUTIONARY STATEMENTS

##### Prevention

Wash hands thoroughly after handling.

Do not eat, drink or smoke when using this product.

Use only outdoors or in a well ventilated area.

Do not breathe dust/fume/gas/mist/vapours/spray.

Wear respiratory protection.

Do not get in eyes, on skin or on clothing

Wear protective gloves/clothing

Keep away from heat/sparks/open flame - No smoking.

Use explosion-proof electrical/ventilating/lighting/equipment

Keep container tightly closed.

Wear protective gloves and eye/face protection.

Ground/bond container and receiving equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge

##### Response

Immediately call a POISON CENTER or doctor/physician.

If eye irritation persists, get medical advice/attention.

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## Section 2 - HAZARDS IDENTIFICATION

Wear eye/face protection.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If skin irritation occurs, seek medical advice/attention.

IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.

If on skin or hair: remove/take off immediately all contaminated clothing. Rinse with water/shower.

Specific treatment: refer to Label or MSDS.

IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.

Remove/Take off immediately all contaminated clothing

IF ON SKIN: Gently wash with plenty of soap and water.

Wash/Decontaminate removed clothing before reuse.

### Storage

Store locked up.

### Disposal

Dispose of contents and container in accordance with relevant legislation.

## Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

| NAME             | CAS RN   | %    |
|------------------|----------|------|
| 2- chloroethanol | 107-07-3 | > 99 |

## Section 4 - FIRST AID MEASURES

### SWALLOWED

For advice, contact a Poisons Information Centre or a doctor.

· IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.

· For advice, contact a Poisons Information Centre or a doctor.

Where Medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:

· Induce vomiting with fingers down the back of the of the throat, ONLY IF CONSCIOUS.

· Lean patient forward or place on left side (head-down position if possible) to maintain open airway and prevent aspiration.

NOTE: Wear a protective glove when inducing vomiting by mechanical means.

· In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.

· If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the MSDS should be provided. Further action will be the responsibility of the medical specialist.

· If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the MSDS.

### 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.

· Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.

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## Section 4 - FIRST AID MEASURES

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- Transport to hospital or doctor without delay.
- Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

### 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.
- Transport to hospital, or doctor, without delay.

### NOTES TO PHYSICIAN

53a

Pre-existing kidney, liver or respiratory diseases may be aggravated by working with this material.

Tests for liver and kidney function should be considered.

Routine liver and kidney examinations are recommended ever 6 months.

2-Chloroethanol is a substrate for liver alcohol dehydrogenase as is converted by mammals, into toxic metabolites, 2-chloroacetaldehyde and chloroacetic acid. The toxicity of 2-chloroethanol is markedly reduced if alcohol is given simultaneously.

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## Section 5 - FIRE FIGHTING MEASURES

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### EXTINGUISHING MEDIA

- Water spray or fog.
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

### FIRE FIGHTING

- Alert Fire Brigade and tell them location and nature of hazard.
- May be violently or explosively reactive.
- Wear full body protective clothing with breathing apparatus.
- Prevent, by any means available, spillage from entering drains or water course.
- If safe, switch off electrical equipment until vapour fire hazard removed.
- Use water delivered as a fine spray to control fire and cool adjacent area.
- Avoid spraying water onto liquid pools.
- DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.

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## Section 5 - FIRE FIGHTING MEASURES

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- If safe to do so, remove containers from path of fire.

### FIRE/EXPLOSION HAZARD

- Liquid and vapour are flammable.
  - Moderate fire hazard when exposed to heat or flame.
  - Vapour forms an explosive mixture with air.
  - Moderate explosion hazard when exposed to heat or flame.
  - Vapour may travel a considerable distance to source of ignition.
  - Heating may cause expansion or decomposition leading to violent rupture of containers.
  - On combustion, may emit toxic fumes of carbon monoxide (CO).
- Emits toxic fumes of phosgene and hydrogen chloride if involved in fire.

### Personal Protective Equipment

Breathing apparatus.  
Gas tight chemical resistant suit.  
Limit exposure duration to 1 BA set 30 mins.

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## Section 6 - ACCIDENTAL RELEASE MEASURES

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### EMERGENCY PROCEDURES

#### MINOR SPILLS

- Remove all ignition sources.
- Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Control personal contact by using protective equipment.
- Contain and absorb small quantities with vermiculite or other absorbent material.
- Wipe up.
- Collect residues in a flammable waste container.

#### MAJOR SPILLS

Clear area of personnel and move upwind.  
Alert fire brigade and tell them location and nature of hazard.  
May be violently or explosively reactive. Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course.  
No smoking, naked lights or ignition sources. Increase ventilation.  
Stop leak if safe to do so. Water spray or fog may be used to disperse vapour.  
Cover spill with soda ash. Mix and spray with water. Scoop into container and let sit for 2 hours. Neutralise with 6M hydrochloric acid.  
Use only spark-free shovels and explosion proof equipment.  
Collect recoverable product into labelled containers for recycling.  
Collect solid residues and seal in labelled drums for disposal.  
Wash area and prevent runoff into drains. After clean up operations, decontaminate and launder all protective clothing and equipment.  
If contamination of drains or waterways occurs, advise emergency services.

### EMERGENCY RESPONSE PLANNING GUIDELINES (ERPG)

The maximum airborne concentration below which it is believed that nearly all individuals could be exposed for up to one hour WITHOUT experiencing or developing

life-threatening health effects is:

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## Section 6 - ACCIDENTAL RELEASE MEASURES

2-chloroethanol 7 ppm

irreversible or other serious effects or symptoms which could impair an individual's ability to take protective action is:

2-chloroethanol 7 ppm

other than mild, transient adverse effects without perceiving a clearly defined odour is:

2-chloroethanol 1 ppm

The threshold concentration below which most people will experience no appreciable risk of health effects:

2-chloroethanol 1 ppm

American Industrial Hygiene Association (AIHA)

Ingredients considered according to the following cutoffs

|                 |          |               |         |
|-----------------|----------|---------------|---------|
| Very Toxic (T+) | >= 0.1%  | Toxic (T)     | >= 3.0% |
| R50             | >= 0.25% | Corrosive (C) | >= 5.0% |
| R51             | >= 2.5%  |               |         |
| else            | >= 10%   |               |         |

where percentage is percentage of ingredient found in the mixture

## SAFE STORAGE WITH OTHER CLASSIFIED CHEMICALS



+: May be stored together

O: May be stored together with specific precautions

X: Must not be stored together

**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 overexposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- Avoid smoking, naked lights or ignition sources.
- Avoid generation of static electricity.
- DO NOT use plastic buckets.
- Earth all lines and equipment.
- Use spark-free tools when handling.
- Avoid contact with incompatible materials.
- When handling, DO NOT eat, drink or smoke.
- Keep containers securely sealed when not in use.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.

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## Section 7 - HANDLING AND STORAGE

- Work clothes should be laundered separately.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.

### SUITABLE CONTAINER

Glass container.

- Packing as supplied by manufacturer.
- Plastic containers may only be used if approved for flammable liquid.
- Check that containers are clearly labelled and free from leaks.

### STORAGE INCOMPATIBILITY

Avoid storage with oxidising agents, strong alkalis, amines, monomers and aluminium.

### STORAGE REQUIREMENTS

- Store in original containers in approved flammable liquid storage area.
- DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
- No smoking, naked lights, heat or ignition sources.
- Keep containers securely sealed.
- Store away from incompatible materials in a cool, dry, well-ventilated area.
- Protect containers against physical damage and check regularly for leaks.
- Observe manufacturer's storing and handling recommendations.

## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### EXPOSURE CONTROLS

The following materials had no OELs on our records

- 2- chloroethanol:

CAS:107- 07- 3 CAS:1867- 09- 0

### EMERGENCY EXPOSURE LIMITS

| Material         | Revised IDLH Value (mg/m3) | Revised IDLH Value (ppm) |
|------------------|----------------------------|--------------------------|
| 2- chloroethanol |                            | 7                        |

### MATERIAL DATA

Because of the very low level of odour associated with the substance, smell cannot be used to indicate potentially dangerous exposures.

Sites of biological effects include the central nervous system (respiratory depression, paralysis, mental disturbances, brain damage), the cardiovascular system (myocardiopathy, sinus tachycardia, circulatory shock), liver (glutathione depletion, inactivation of drug-metabolising enzymes, degeneration), kidney (polyuria, disorders in excretion of electrolytes and nitrogen, degeneration), gastrointestinal (nausea, vomiting, epigastric pain), skin (erythema, nuclear pyknosis, blisters) and eyes (irritation).

Exposure at or below the TLV-C: is thought to reduce the risk of significant central nervous system and other systemic effects associated with workplace exposure.

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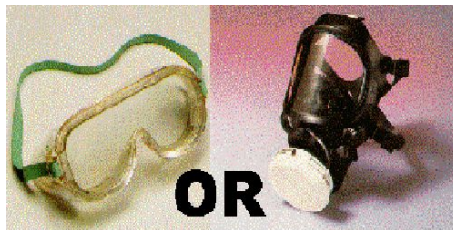
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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

### PERSONAL PROTECTION



#### EYE

- Safety glasses with side shields.
- Chemical goggles.
- Full face shield may be required for supplementary but never for primary protection of eyes
- Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lens or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].

#### HANDS/FEET

Neoprene gloves.

Neoprene boots.

**WARNING :** Penetrates ordinary rubber and plastic gloves and all known protective clothing. However, neoprene rubber provides significant temporary protection.

#### OTHER

Neoprene overalls.

Neoprene protective suit may be required.

Eyewash unit.

Ensure there is ready access to a safety shower.

**WARNING :** Penetrates all known protective clothing. rubber provides significant temporary protection.

However, neoprene

#### GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

" Forsberg Clothing Performance Index" .

The effect(s) of the following substance(s) are taken into account in the computer- generated selection: 2- chloroethanol

Protective Material CPI \*.

|          |   |
|----------|---|
| BUTYL    | A |
| PVA      | A |
| VITON    | A |
| NEOPRENE | A |
| PE       | B |

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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

NOTE: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

### RESPIRATOR

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

| Breathing Zone Level<br>ppm (volume) | Maximum Protection<br>Factor | Half- face Respirator | Full- Face Respirator |
|--------------------------------------|------------------------------|-----------------------|-----------------------|
| 1000                                 | 10                           | A- AUS                | -                     |
| 1000                                 | 50                           | -                     | A- AUS                |
| 5000                                 | 50                           | Airline *             | -                     |
| 5000                                 | 100                          | -                     | A- 2                  |
| 10000                                | 100                          | -                     | A- 3                  |
|                                      | 100+                         |                       | Airline**             |

\* - Continuous Flow

\*\* - Continuous-flow or positive pressure demand.

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required.

For further information consult your Occupational Health and Safety Advisor.

### ENGINEERING CONTROLS

Use in a well-ventilated area.

Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection.

An approved self contained breathing apparatus (SCBA) may be required in some situations.

Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:  
solvent, vapours, degreasing etc., evaporating from tank (in still air).  
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation) direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts,

Air Speed:  
0.25- 0.5 m/s (50- 100 f/min.)

0.5- 1 m/s (100- 200 f/min.)

1- 2.5 m/s (200- 500 f/min.)

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## Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

gas discharge (active generation into zone of rapid air motion)  
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).

2.5- 10 m/s (500- 2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range

1: Room air currents minimal or favourable to capture

2: Contaminants of low toxicity or of nuisance value only.

3: Intermittent, low production.

4: Large hood or large air mass in motion

Upper end of the range

1: Disturbing room air currents

2: Contaminants of high toxicity

3: High production, heavy use

4: Small hood- local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

## Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

### APPEARANCE

Colourless liquid with faint ether-like odour; mixes with water and most organic liquids.

### PHYSICAL PROPERTIES

Liquid.

Mixes with water.

Toxic or noxious vapours/gas.

Molecular Weight: 80.52

Melting Range (°C): - 67.5

Solubility in water (g/L): Miscible

pH (1% solution): 5- 8 (50% soln.)

Volatile Component (%vol): 100

Relative Vapour Density (air=1): 2.78

Lower Explosive Limit (%): 5

Autoignition Temp (°C): 425

State: Liquid

Boiling Range (°C): 127- 136

Specific Gravity (water=1): 1.21

pH (as supplied): Not applicable

Vapour Pressure (kPa): 0.64 @ 20 C.

Evaporation Rate: 45 Ether=1

Flash Point (°C): 55 (DIN 51755).

Upper Explosive Limit (%): 16

Decomposition Temp (°C): Not available

Viscosity: Not available

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## Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

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### CONDITIONS CONTRIBUTING TO INSTABILITY

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

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## Section 11 - TOXICOLOGICAL INFORMATION

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### 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.

Central nervous system (CNS) depression may include nonspecific discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.

##### EYE

Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.

Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur.

The vapour is.

The material may produce severe irritation to the eye causing pronounced inflammation.

Repeated or prolonged exposure to irritants may produce conjunctivitis.

##### SKIN

Skin contact with the material may produce severely toxic effects; systemic effects may result following absorption and these may be fatal.

Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (nonallergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis.

Exposure limits with "skin" notation indicate that vapour and liquid may be absorbed through intact skin. Absorption by skin may readily exceed vapour inhalation exposure.

Symptoms for skin absorption are the same as for inhalation. Contact with eyes and mucous

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## Section 11 - TOXICOLOGICAL INFORMATION

membranes may also contribute to overall exposure and may also invalidate the exposure standard.

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

### INHALED

The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation, of the material, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. Inhalation hazard is increased at higher temperatures.

### CHRONIC HEALTH EFFECTS

Principal routes of exposure are by accidental skin and eye contact and by inhalation of vapours especially at higher temperatures.

The substance tends to accumulate after repeated intake.

## TOXICITY AND IRRITATION

### TOXICITY

Oral (rat) LD50: 71 mg/kg

Dermal (rabbit) LD50: 56 mg/kg

Inhalation (man) LCLo: 305 ppm/2h

Rat cell mutagen

### IRRITATION

Skin (rabbit): 200 mg/2h - Mild

Eye (rabbit): 2 mg - SEVERE

Eye (rabbit): 33 mg - Moderate

Eye (rabbit) 9 mg/6h - moderate

## Section 12 - ECOLOGICAL INFORMATION

BOD20: 88.60%

BOD 5 if unstated: 0.5,0%

## Section 13 - DISPOSAL CONSIDERATIONS

- Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Authority for disposal.
- Bury or incinerate residue at an approved site.
- Recycle containers if possible, or dispose of in an authorised landfill.

## Section 14 - TRANSPORTATION INFORMATION



Labels Required: TOXIC, FLAMMABLE LIQUID  
HAZCHEM: 2W

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## Section 14 - TRANSPORTATION INFORMATION

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### UNDG:

|                                     |      |                |   |
|-------------------------------------|------|----------------|---|
| Dangerous Goods Class:              | 6.1  | Subrisk:       | 3 |
| UN Number:                          | 1135 | Packing Group: | I |
| Shipping Name:ETHYLENE CHLOROHYDRIN |      |                |   |

### Maritime Transport IMDG:

|                                     |            |                |   |
|-------------------------------------|------------|----------------|---|
| IMDG Class:                         | 6.1        | IMDG Subrisk:  | 3 |
| UN Number:                          | 1135       | Packing Group: | I |
| EMS Number:                         | F- E, S- D |                |   |
| Shipping name:ETHYLENE CHLOROHYDRIN |            |                |   |

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS:IATA

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## Section 15 - REGULATORY INFORMATION

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### REGULATIONS

2-chloroethanol (CAS: 107-07-3) is found on the following regulatory lists;  
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk  
OECD Representative List of High Production Volume (HPV) Chemicals  
The Australia Group Export Control List: Chemical Weapons Precursors

No data available for 2-chloroethanol as CAS: 1867-09-0.

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## Section 16 - OTHER INFORMATION

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### INGREDIENTS WITH MULTIPLE CAS NUMBERS

| Ingredient Name  | CAS                     |
|------------------|-------------------------|
| 2- chloroethanol | 107- 07- 3, 1867- 09- 0 |

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: 24-Jun-2018