SECTION-1: Identification of the substance / mixture and the company / undertaking

Catalogue Number	CS-O-57585
Product Name	Ethylene oxide in dimethyl sulfoxide (DMSO)
CAS No.	75-21-8
Category	Metabolite
Synonyms	Not available
Brand	Clearsynth Labs Ltd.
Identified uses	Laboratory Chemicals
Uses advised against	Not available
Company	Clearsynth Labs Ltd. Mumbai, India
Emergency Phone #	+91-22-245045900
REACH No.	Not available

SECTION 2: Hazards identification

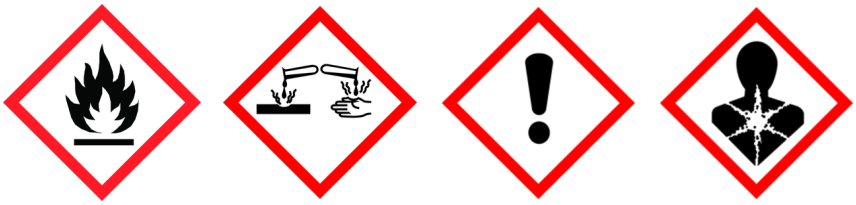
Disclaimer: This is sample MSDS. Please email **sales@clearsynth.com** for more details.

2.1 Classification of the substance or mixture-Regulation (EC) No 1272/2008:

Skin irritation (Category 2)
Serious eye damage/eye irritation (Category 2)
Acute toxicity (Category 4)

2.2 Label Elements

Signal Word: Warning



Hazard Statement(s)

Code	Statement
H220	Not available
H301	Not available

H314	Not available
H318	Causes serious eye damage.
H331	Not available
H335	Not available
H336	Not available
H340	Not available
H350	Not available
H372	Not available
H230	Not available
H280	Not available
H302	Harmful if swallowed.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H360	Not available
H317	May cause an allergic skin reaction.
H411	Toxic to aquatic life with long lasting effects.
H412	Not available
H370	Not available
H373	Not available
H402	Not available

Precautionary Statement(s)

Code	Statement
P203	Not available
P210	Not available
P222	Not available
P260	Not available
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P264	Wash hands thoroughly after handling.
P264+P265	Not available

P270	Not available
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P316	Not available
P301+P330+P331	Not available
P302+P361+P354	Not available
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P354+P338	Not available
P316	Not available
P317	Not available
P318	Not available
P319	Get medical help if you feel unwell.
P321	Specific treatment (see … on this label).
P330	Not available
P363	Not available
P377	Not available
P381	Not available
P403	Not available
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulatio
P301+P317	Not available
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if presen
P332+P317	If skin irritation occurs: Get medical help.
P337	Not available
P337+P317	If eye irritation persists: Get medical help.
P362+P364	Take off contaminated clothing and wash it before reuse.
P410+P403	Not available
P272	Not available

P273	Not available
P333+P317	Not available
P391	Not available
P308+P316	Not available

SECTION 3: Composition / information on ingredients

3.1 Substance

Component : Ethylene oxide in dimethyl sulfoxide (DMSO)
CAS Number : 75-21-8
Molecular Formula : C2H4O
Molecular Weight : 44.05
Parent Chemical : Oxirane
Synonyms : Not available
Concentration : Not available

SECTION 4: First aid measures

SECTION 4: First-aid measures

4.1 Description of first aid measures
General advice:
- Seek medical attention if symptoms occur or persist.
- Show this Safety Data Sheet to the physician in attendance.

Inhalation:
- Remove person to fresh air and keep comfortable for breathing.
- If breathing is difficult, seek medical attention.

Skin contact:
- Remove contaminated clothing and shoes.
- Wash skin with plenty of water and soap.
- Get medical attention if irritation develops.

Eye contact:
- Rinse cautiously with water for several minutes.
- Remove contact lenses if present and easy to do; continue rinsing.
- Seek medical attention if irritation persists.

Ingestion:
- Rinse mouth.
- Do NOT induce vomiting.
- Get medical attention.

4.2 Most important symptoms and effects, both acute and delayed
- Not available.

4.3 Indication of any immediate medical attention and special treatment needed

- Treat symptomatically.
- Not available.

SECTION 5: Firefighting measures

SECTION 5: Fire-fighting measures

5.1 Extinguishing media
Suitable extinguishing media:
- Use extinguishing measures appropriate to local circumstances and the surrounding environment.
- Not available.

Unsuitable extinguishing media:
- Not available.

5.2 Special hazards arising from the substance or mixture
- Not available.

5.3 Advice for firefighters
- Wear self-contained breathing apparatus (SCBA) and full protective gear.
- Cool containers with water spray if exposed to fire.
- Prevent fire-fighting water from entering drains or watercourses.

SECTION 6: Accidental release measures

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
- Evacuate unnecessary personnel.
- Provide adequate ventilation.
- Avoid breathing vapors/mists.
- Avoid contact with skin and eyes.
- Use appropriate personal protective equipment (see Section 8).

6.2 Environmental precautions
- Prevent further leakage or spillage if safe to do so.
- Avoid release to the environment.
- Prevent entry into drains, sewers, or waterways.

6.3 Methods and material for containment and cleaning up
- Contain spill.
- Absorb with inert material (e.g., sand, earth, vermiculite) and place in a suitable, labeled container for disposal.
- Clean contaminated area with water and detergent as appropriate.

6.4 Reference to other sections
- See Section 8 for personal protective equipment.
- See Section 13 for disposal considerations.

SECTION-7: Handling and storage

SECTION 7: Handling and storage

7.1 Precautions for safe handling
- Use only with adequate ventilation.
- Avoid breathing vapors/mists.
- Avoid contact with skin, eyes, and clothing.
- Keep container tightly closed when not in use.
- Do not eat, drink, or smoke when using this product.
- Wash hands thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities
- Store in a cool, dry, well-ventilated place.
- Keep container tightly closed.
- Protect from heat and sources of ignition.
- Incompatible materials: Not available.

7.3 Specific end use(s)
- Laboratory/research use only.
- Not available.

SECTION 8: Exposure controls / personal protection

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
Occupational exposure limits:
- Ethylene oxide (CAS 75-21-8): Not available.
- Dimethyl sulfoxide (DMSO): Not available.

Biological limit values:
- Not available.

8.2 Exposure controls
Engineering controls:
- Use local exhaust ventilation or general ventilation to maintain airborne concentrations below applicable limits.

Personal protective equipment (PPE):
Eye/face protection:
- Safety glasses with side shields or chemical splash goggles.

Skin protection:
- Wear protective gloves suitable for chemical handling.
- Wear protective clothing to prevent skin contact.

Respiratory protection:
- If ventilation is inadequate, use appropriate respiratory protection.

Hygiene measures:
- Handle in accordance with good industrial hygiene and safety practice.
- Remove contaminated clothing and wash before reuse.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Test	Result
Appearance	No data available
IR spectrum	No data available
pH	No data available
Solubility	No data available

Property	Value
a) Physical State	No data available
b) Color	No data available
c) Odor	No data available
d) pH	No data available
e) Vapour Pressure	No data available
f) Viscosity	No data available
g) Initial Boiling Point and boiling range	No data available
h) Melting Point / Freezing Point	No data available
i) Auto Ignition Temperature	No data available
j) Flash Point	No data available
k) Explosion Limit, Lower	No data available
l) Explosion Limit, Upper	No data available
m) Decomposition Temperature	No data available
n) Loss on Drying	No data available
o) Relative Density	No data available
p) Solubility (in DMSO)	No data available
q) Oxidizing Properties	No data available

SECTION 10: Stability and reactivity

SECTION 10: Stability and reactivity

10.1 Reactivity
- Not available.

10.2 Chemical stability
- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
- Not available.

10.4 Conditions to avoid
- Heat, sparks, open flames, and other ignition sources.
- Not available.

10.5 Incompatible materials
- Not available.

10.6 Hazardous decomposition products
- Not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
- Acute toxicity: Ethylene oxide is rapidly taken up via the lungs, distributed, and metabolized to ethylene glycol and to glutathione conjugates. Ethylene oxide can be absorbed though the skin from the gas phase or from aqueous solutions and is uniformly distributed throughout the body. The acute inhalation toxicity of ethylene oxide in rodents and dogs is low. Acute exposure leads to central nervous system effects; headache, nausea and vomiting are often evident. High concentrations can cause pulmonary edema and damage the cardiovascular system.
- Skin corrosion/irritation: Irritation of the skin has been observed in workers exposed to ethylene oxide. Ethylene oxide easily penetrates through clothing and footwear, causing skin irritation and dermatitis with the formation of blisters, fever and leukocytosis.
- Serious eye damage/eye irritation: Exposure to high concentrations of ethylene oxide vapor or eye splashes of concentrated solutions can cause eye irritation, inflammation of the eye membrane and corneal injury. Exposure to ethylene oxide has also been linked to the development of cataracts.
- Respiratory or skin sensitization: No data available.
- Germ cell mutagenicity: Ethylene oxide is a directly acting alkylating agent and induces a sensitive, persistent dose-related increase in the frequency of chromosomal aberrations and sister chromatid exchange in peripheral lymphocytes and micronuclei in bone marrow cells of exposed workers. It induces gene mutations and heritable translocations in germ cells of exposed rodents and is a powerful mutagen and clastogen at all phylogenetic levels.
- Carcinogenicity: There is limited evidence in humans for the carcinogenicity of ethylene oxide and sufficient evidence in experimental animals for the carcinogenicity of ethylene oxide. Overall evaluation: Ethylene oxide is carcinogenic to humans (Group 1). In inhalation studies, ethylene oxide has induced a wide range of tumours (e.g., leukaemia, lymphoma, brain, lung). There is some evidence of an association between exposure to ethylene oxide and the development of haematological cancers in epidemiological studies of occupationally exposed populations; limitations of the data preclude definitive conclusions.
- Reproductive toxicity: Evidence from epidemiological studies of reproductive effects (primarily spontaneous abortions) of ethylene oxide in humans is limited. In experimental animals, reproductive effects occur at lowest concentration (>90 mg/m3), including reductions in litter size, increased post-implantation losses, alterations in sperm morphology, and changes in sperm count and motility. In experimental animals, ethylene oxide is fetotoxic in the presence and absence of maternal toxicity at concentrations higher than those associated with cancer and other non-cancer (i.e., neurological) effects; it is teratogenic only at very high concentrations (above about 1600 mg/m3).
- STOT-single exposure: No data available.

- STOT-repeated exposure: The major effects seen in workers exposed to ethylene oxide at low levels for several months or years are irritation of the eyes, skin, and mucous membranes and problems in the functioning of the brain and nerves. Neurological effects (primarily sensorimotor polyneuropathy) have been observed in workers exposed to relatively high concentrations. Peripheral neuropathy, impaired hand-eye coordination and memory loss have been reported in more recent case studies of chronically-exposed workers at estimated average exposure levels as low as 3 ppm. Reported effects in studies in animals were restricted primarily to those on the hematological and nervous systems. At high doses (>200 ppm) ethylene oxide irritates mucous membranes of the nose and throat; higher concentrations cause damage to the trachea and bronchi, progressing into the partial collapse of the lungs.
- Aspiration hazard: No data available.

Likely routes of exposure
- The route of likely greatest exposure and focus of the human health is inhalation from air. Ethylene oxide can be absorbed though the skin from the gas phase or from aqueous solutions.

Symptoms related to the physical, chemical and toxicological characteristics
- Ocular, respiratory, and dermal irritation; sensitizing agent. Acute exposure leads to central nervous system effects; headache, nausea and vomiting. Neurological effects including sensorimotor polyneuropathy; peripheral neuropathy, impaired hand-eye coordination and memory loss reported with chronic exposure. Skin irritation and dermatitis with blisters; fever and leukocytosis. High concentrations can cause pulmonary edema and damage the cardiovascular system.

SECTION 12: Ecological information

SECTION 12: Ecological information

12.1 Toxicity
- Not available.

12.2 Persistence and degradability
- Not available.

12.3 Bioaccumulative potential
- Not available.

12.4 Mobility in soil
- Not available.

12.5 Results of PBT and vPvB assessment
- Not available.

12.6 Endocrine disrupting properties
- Not available.

12.7 Other adverse effects
- Not available.

SECTION 13: Disposal considerations

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Product/unused material:

- Dispose of contents/container in accordance with local/regional/national/international regulations.
- Do not discharge to drains.

Contaminated packaging:
- Dispose of as unused product.

Waste code:
- Not available.

SECTION 14: Transport information

SECTION 14: Transport information

14.1 UN number
- Not available.

14.2 UN proper shipping name
- Not available.

14.3 Transport hazard class(es)
- Not available.

14.4 Packing group
- Not available.

14.5 Environmental hazards
- Not available.

14.6 Special precautions for user
- Not available.

14.7 Maritime transport in bulk according to IMO instruments
- Not available.

SECTION 15: Regulatory information

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Not available.

SECTION 16: Other information

SECTION 16: Other information

Product identifier:
- Product name: Ethylene oxide in dimethyl sulfoxide (DMSO)
- Catalog No.: CS-O-57585
- CAS No.: 75-21-8
- Parent chemical: Oxirane

Supplier:
- Clearsynth Labs Ltd., Mumbai, India
- Emergency phone: +91-22-245045900

Revision information:
- Not available.

Disclaimer:
- The information provided is believed to be accurate based on available data; however, no warranty is expressed or implied. Users are responsible for determining suitability for their particular application and for compliance with applicable regulations.

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