

1. Identification

Product identifier EPOXY COLD ROOM HARDENER
Other means of identification None.
Recommended use Not available.
Recommended restrictions None known.
Manufacturer/Importer/Supplier/Distributor information
Company Name Armor Limited, Inc.
Address 2410 US-15 South, Sumter, SC 29150

After hours telephone number 1-877-982-7667
Normal work hours telephone number 1-877-982-7667
Website www.armor-inc.com
E-mail customerservice@armor-inc.com
Emergency 24-hour telephone number CHEMTREC North America: +1-800-424-9300, International: +1-703-527-3887
Information on operation hours 8:00 a.m. to 5:00 p.m.

2. Hazard(s) identification

Physical hazards Not classified.
Health hazards
Acute toxicity, oral Category 4
Acute toxicity, dermal Category 4
Acute toxicity, inhalation Category 2
Skin corrosion/irritation Category 1
Serious eye damage/eye irritation Category 1
Sensitization, skin Category 1
Reproductive toxicity Category 1
Specific target organ toxicity, single exposure Category 3 respiratory tract irritation
Environmental hazards Not classified.
OSHA defined hazards Not classified.

Label elements

Signal word Danger

Hazard statement Fatal if inhaled. Harmful if swallowed. Harmful in contact with skin. Causes severe skin burns and eye damage. May cause an allergic skin reaction. May damage fertility or the unborn child. May cause respiratory irritation.

Precautionary statement
Prevention

Obtain special instructions before use. Avoid breathing dust/fume/gas/mist/vapors/spray. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection. In case of inadequate ventilation wear respiratory protection. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Contaminated work clothing must not be allowed out of the workplace. Do not handle until all safety precautions have been read and understood. Use personal protective equipment as required. Avoid release to the environment.

Response	IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation or rash occurs: Get medical advice/attention. IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. Do NOT induce vomiting. Immediately call a POISON CENTER/doctor. Specific treatment is urgent (see this label). Take off contaminated clothing and wash it before reuse. Collect spillage.
Storage	Keep container tightly closed. Store in a well-ventilated place. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	Not applicable.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
2,2'-IMINODI(ETHYLAMINE)		111-40-0	45 - 70
4,4'-ISOPROPYLIDENEDIPHENOL		80-05-7	15 - 40

4. First-aid measures

Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a physician if symptoms develop or persist.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical advice/attention if you feel unwell. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
Eye contact	Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.
Ingestion	Rinse mouth thoroughly. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Never give anything by mouth to a victim who is unconscious or is having convulsions. Call a physician or poison control center immediately.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Show this safety data sheet to the doctor in attendance. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media	Alcohol resistant foam. Carbon dioxide (CO ₂). Dry chemical powder. Dry sand. Limestone powder.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical	During fire, gases hazardous to health may be formed. May generate ammonia gas. Nitrogen Oxides (NO _x). Burning produces noxious and toxic fumes. Combustion may form carbon monoxide.
Special protective equipment and precautions for firefighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
Fire fighting equipment/instructions	Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapors. Do not touch or walk through spilled material. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.

Methods and materials for containment and cleaning up

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.

Environmental precautions

Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling

Avoid breathing mist/vapors. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. When using, do not eat, drink or smoke. Provide adequate ventilation. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Store in a cool, dry place. Store in tightly closed container. Store in a well-ventilated place. Store locked up. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit. At this time, the other constituents have no known exposure limits.

US. ACGIH Threshold Limit Values

Components	Type	Value
2,2'-IMINODI(ETHYLAMINE) (CAS 111-40-0)	TWA	1 ppm

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
2,2'-IMINODI(ETHYLAMINE) (CAS 111-40-0)	TWA	4 mg/m3
		1 ppm

Biological limit values

No biological exposure limits noted for the ingredient(s).

Exposure guidelines

US - California OELs: Skin designation

2,2'-IMINODI(ETHYLAMINE) (CAS 111-40-0) Can be absorbed through the skin.

US - Minnesota Haz Subs: Skin designation applies

2,2'-IMINODI(ETHYLAMINE) (CAS 111-40-0) Skin designation applies.

US ACGIH Threshold Limit Values: Skin designation

2,2'-IMINODI(ETHYLAMINE) (CAS 111-40-0) Danger of cutaneous absorption

US NIOSH Pocket Guide to Chemical Hazards: Skin designation

2,2'-IMINODI(ETHYLAMINE) (CAS 111-40-0) Can be absorbed through the skin.

Appropriate engineering controls

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. Provide eyewash station and safety shower.

Individual protection measures, such as personal protective equipment

Eye/face protection

Chemical goggles and face shield are recommended.

Skin protection

Hand protection

Chemical resistant gloves are recommended. If contact with forearms is likely wear gauntlet style gloves. Impervious gloves. Nitrile, butyl rubber or neoprene gloves are recommended.

Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. Use gloves to protect hands from abrasions. PVC or rubber boots.

Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Contaminated work clothing should not be allowed out of the workplace.

9. Physical and chemical properties

Appearance	Amber Liquid
Physical state	Liquid.
Form	Liquid.
Color	Amber.
Odor	Ammoniacal.
Odor threshold	Not available.
pH	11
Melting point/freezing point	Not available.
Initial boiling point and boiling range	> 392 °F (> 200 °C)
Flash point	217.0 °F (102.8 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	< 0.13 hPa @21°C
Vapor density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	140 g/cm3
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	1.03 g/cm3 @21°C
Dynamic viscosity	150 mPa.s @25°C
Kinematic viscosity	130 mm2/s @25°C

10. Stability and reactivity

Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Conditions to avoid	Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Do not add sodium nitrite or other nitrosating agents which may form cancer causing nitrosamines. Nitrous acid. Sodium hypochlorite. Product corrodes copper, aluminum, zinc, and galvanized surfaces. Oxidizing agents. Reaction with peroxides may result in violent decomposition of peroxide possibly creating an explosion.
Hazardous decomposition products	Nitric Acid. Ammonia. Nitrogen oxides (NOx). Carbon dioxide. Carbon monoxide. Nitrosamine. Aldehydes. Nitrogen oxide can react with water vapors to form corrosive nitric acid. Flammable hydrocarbon fragments.

11. Toxicological information

Information on likely routes of exposure

Inhalation	Fatal if inhaled.
Skin contact	Causes severe skin burns and eye damage. Harmful in contact with skin. May cause an allergic skin reaction.
Eye contact	Causes serious eye damage.
Ingestion	Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Coughing. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Causes serious eye damage. Burning pain and severe corrosive skin damage. May cause respiratory irritation.

Information on toxicological effects

Acute toxicity Harmful in contact with skin. Fatal if inhaled. Harmful if swallowed.

Product	Species	Test Results
----------------	----------------	---------------------

EPOXY COLD ROOM HARDENER

Acute

Oral

LD50	Rat	1627 mg/kg
------	-----	------------

Components	Species	Test Results
-------------------	----------------	---------------------

2,2'-IMINODI(ETHYLAMINE) (CAS 111-40-0)

Acute

Oral

LD50	Rat	1080 mg/kg
------	-----	------------

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation Causes severe skin burns and eye damage.

Serious eye damage/eye irritation Causes serious eye damage.

Respiratory or skin sensitization

Respiratory sensitization Not a respiratory sensitizer.

Skin sensitization May cause an allergic skin reaction.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens

Not listed.

Reproductive toxicity May damage fertility or the unborn child.

Specific target organ toxicity - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results	
EPOXY COLD ROOM HARDENER			
Aquatic			
Crustacea	EC50	Daphnia	18.4, 48 hours
Fish	LC50	Fish	10.5449, 96 hours
<i>Acute</i>			
Crustacea	EC50	Daphnia	26.2857, 48 hours estimated
Fish	LC50	Fish	10.2183, 96 hours estimated
Components			
Species			
Test Results			
2,2'-IMINODI(ETHYLAMINE) (CAS 111-40-0)			
Aquatic			
<i>Acute</i>			
Fish	LC50	Guppy (Poecilia reticulata)	1014, 96 hours
4,4'-ISOPROPYLIDENEDIPHENOL (CAS 80-05-7)			
Aquatic			
<i>Acute</i>			
Crustacea	EC50	Water flea (Daphnia magna)	>= 9.2 - <= 11.4 mg/l, 48 hours
Fish	LC50	Fathead minnow (Pimephales promelas)	>= 3.6 - <= 5.4 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)

4,4'-ISOPROPYLIDENEDIPHENOL 3.32

Mobility in soil No data available.

Other adverse effects The product contains volatile organic compounds which have a photochemical ozone creation potential.

13. Disposal considerations

Disposal instructions Dispose of this material and its container to hazardous or special waste collection point. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Waste from residues / unused products Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

DOT

UN number	UN2079
UN proper shipping name	Diethylenetriamine Solution
Transport hazard class(es)	
Class	8
Subsidiary risk	-
Label(s)	8
Packing group	II
Environmental hazards	
Marine pollutant	no
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Special provisions	B2, IB2, T7, TP2

Packaging exceptions 154
Packaging non bulk 202
Packaging bulk 242

IATA

UN number UN2079
UN proper shipping name Diethylenetriamine Solution
Transport hazard class(es)
Class 8
Subsidiary risk -
Packing group II
Environmental hazards Yes
ERG Code 8L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Other information

Passenger and cargo aircraft Allowed with restrictions.
Cargo aircraft only Allowed with restrictions.

IMDG

UN number UN2079
UN proper shipping name DIETHYLENETRIAMINE SOULTION, MARINE POLLUTANT
Transport hazard class(es)
Class 8
Subsidiary risk -
Packing group II
Environmental hazards
Marine pollutant Yes
EmS F-A, S-B
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

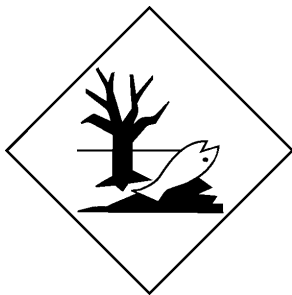
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not established.

DOT



IATA; IMDG





15. Regulatory information

US federal regulations This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

Toxic Substances Control Act (TSCA) All components of the mixture on the TSCA 8(b) inventory are designated "active".

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

TSCA Chemical Action Plans, Chemicals of Concern

4,4'-ISOPROPYLIDENEDIPHENOL (CAS 80-05-7) Bisphenol A Action Plan

CERCLA Hazardous Substance List (40 CFR 302.4)

4,4'-ISOPROPYLIDENEDIPHENOL (CAS 80-05-7) Listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SARA 302 Extremely hazardous substance

Not listed.

SARA 311/312 Hazardous chemical Yes

Classified hazard categories

- Acute toxicity (any route of exposure)
- Skin corrosion or irritation
- Serious eye damage or eye irritation
- Respiratory or skin sensitization
- Reproductive toxicity
- Specific target organ toxicity (single or repeated exposure)

SARA 313 (TRI reporting)

Chemical name	CAS number	% by wt.
4,4'-ISOPROPYLIDENEDIPHENOL	80-05-7	15 - 40

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

4,4'-ISOPROPYLIDENEDIPHENOL (CAS 80-05-7)

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

Safe Drinking Water Act (SDWA) Not regulated.

US state regulations

US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))

4,4'-ISOPROPYLIDENEDIPHENOL (CAS 80-05-7)

California Proposition 65



WARNING: This product can expose you to 4,4'-ISOPROPYLIDENEDIPHENOL, 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.

California Proposition 65 - CRT: Listed date/Developmental toxin

4,4'-ISOPROPYLIDENEDIPHENOL (CAS 80-05-7) Listed: December 18, 2020

California Proposition 65 - CRT: Listed date/Female reproductive toxin

4,4'-ISOPROPYLLIDENEDIPHENOL (CAS 80-05-7) Listed: May 11, 2015

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Industrial Chemicals (AICIS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision**Issue date** 04-14-2015**Revision date** 12-14-2022**Version #** 03**Disclaimer** Armor cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.**Revision information** This document has undergone significant changes and should be reviewed in its entirety.