

# SAFETY DATA SHEET: DIETHANOLAMINE

# IN CASE OF TRANSPORTATION EMERGENCY CONTACT: CHEMTREC:(800) 424-9300

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# 1. IDENTIFICATION

PRODUCT NAME: DIETHANOLAMINE

CAS NO: 111-42-2

EINECS NO: 203-868-0

TSCA: TSCA 8(b) inventory: Diethanolamine

CHEMICAL FORMULA: C4 H11 NO2

SYNONYMS: Bis(2-hydroxyethyl)amine; 2,2'-Iminodiethanol; DEA

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE:

Commonly used as component in the cosmetic industry

# 2. HAZARDS IDENTIFICATION

Carcinogen, Harmful by ingestion, Irritant, Target organ effect

Target Organs:

Blood, Kidney, Liver

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#### Potential Acute Health Effects:

Extremely hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Very hazardous in case of skin contact (permeator). Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

#### Potential Chronic Health Effects:

Extremely hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Very hazardous in case of skin contact (permeator). CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.

#### Eye Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open.

SDS: DIETHANOLAMINE Page: 1



Cold water may be used. Do not use an eye ointment. Seek medical attention.

#### Skin Contact:

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

#### Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation: Not available

#### Ingestion:

Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

#### 3. COMPOSITION

NAME CAS # % BY WEIGHT

Diethanolamine 111-42-2 100

Toxicological Data on Ingredients: Diethanolamine: ORAL (LD50): Acute: 710 mg/kg [Rat]. DERMAL (LD50): Acute: 12200 mg/kg [Rabbit].

#### 4. FIRST AID MEASURES

#### Eve Contact:

Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

#### Skin Contact:

After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention. Wash contaminated clothing before reusing.

#### Serious Skin Contact:

Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek immediate medical attention.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation: Not available.

#### Ingestion:

Do not induce vomiting. Examine the lips and mouth to ascertain whether the tissues are damaged, a possible indication that the toxic material was ingested; the absence of such signs, however, is not conclusive. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

# 5. FIRE FIGHTING MEASURES

SDS: DIETHANOLAMINE Page: 2



Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: 662°C (1223.6°F)

Flash Points: CLOSED CUP: 168.9°C (336°F). OPEN CUP: 165.6°C (330.1°F).

Flammable Limits: Not available.

Products of Combustion: These products are carbon oxides (CO, CO2), nitrogen oxides (NO, NO2...).

Fire Hazards in Presence of Various Substances:

Flammable in presence of oxidizing materials. Slightly flammable to flammable in presence of heat.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions:

SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, fog or foam. Do not use water jet.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

#### 6. ACCIDENTAL RELEASE MEASURES

#### Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

#### Large Spill:

If the product is in its solid form: Use a shovel to put the material into a convenient waste disposal container. If the product is in its liquid form: Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system. Be careful that the product is not present at a concentration level above TLV. Check TLV on the MSDS and with local authorities.

#### 7. HANDLING AND STORAGE

Precautions:

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Do not get on skin or in eye. Do not inhale vapor or mist. Take normal fire prevention measures.

Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not ingest. Do not breathe dust. In case of insufficient ventilation, wear suitable respiratory equipment If ingested, seek medical advice immediately and show the container or the label. Avoid contact with skin and eyes

#### Storage:

Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

# 8. EXPOSURE CONTROLS AND PERSONAL PROECTION

**Engineering Controls:** 

Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits. If user operations generate dust, fume or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit.



#### Personal Protection:

Splash goggles. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

#### Personal Protection in Case of a Large Spill:

Splash goggles. Full suit. Dust respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

#### **Exposure Limits:**

TWA: 0.46 (ppm) from ACGIH (TLV) [1995] TWA: 2 (mg/m3) from ACGIH [1995]Consult local authorities for acceptable exposure limits.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance: Solid.

Odor: Not available.

Taste: Not available.

Molecular Weight: 105.14 g/mole

Color: Not available.

pH (1% soln/water): Not available.

Boiling Point: 268°C (514.4°F)

Melting Point: 28°C (82.4°F)

Critical Temperature: Not available.

Specific Gravity: 1.1 (Water = 1)

Vapor Pressure: Not applicable.

Vapor Density: 3.6 (Air = 1)

Volatility: Not available

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Easily soluble in cold water, hot water.

# 10. STABILITY AND REACTIVITY

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available

Incompatibility with various substances: Oxidizing agents, copper, zinc, iron

Page: 4



Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

conditions, the primary hazardous decomposition products.

# 11. TOXICOLOGICAL INFORMATION

Routes of Entry: Dermal contact. Eye contact. Inhalation. Ingestion.

Toxicity to Animals:

Acute oral toxicity (LD50): 710 mg/kg [Rat]. Acute dermal toxicity (LD50): 12,200 mg/kg [Rabbit].

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans:

Extremely hazardous in case of skin contact (irritant), of ingestion, of inhalation. Very hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

# 12. ECOLOGICAL INFORMATION

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:

Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are as toxic as the original product.

Special Remarks on the Products of Biodegradation: Not available.

# 13. DISPOSAL CONSIDERATIONS

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

SDS: DIETHANOLAMINE Page: 5



# 14. TRANSPORT INFORMATION

UN Number: UN 3082

Proper shipping documentation: UN 3082, Environmentally hazardous substance, liquid, n.o.s. (Diethanolamine) 9, PG III

Marine Pollutant: NO

Reportable quantity: 100

# 15. REGULATORY INFORMATION

Federal and State Regulations:

Pennsylvania RTK: Diethanolamine Massachusetts RTK: Diethanolamine TSCA 8(b) inventory: Diethanolamine SARA 313 toxic chemical notification and release reporting: Diethanolamine CERCLA: Hazardous substances.: Diethanolamine

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada): CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):

R22- Harmful if swallowed. R38- Irritating to skin. R41- Risk of serious damage to eyes.

HMIS (U.S.A.): Health Hazard: 1

Fire Hazard: 1 Reactivity: 0 Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 1 Flammability: 1 Reactivity: 0 Specific hazard: Protective Equipment:

Gloves. Lab coat. Dust respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

# 16. OTHER INFORMATION

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall CISCO be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if CISCO has been advised of the possibility of such damages.

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