Material Safety Data Sheet

HUNTSMAN
Enriching lives through innovation

1 . Product and company identification

Product name : **DIGLYCOLAMINE® AGENT (DGA)** **MSDS #** **00033118**

Product Use : **Welding and cutting of metals.**

Huntsman Petrochemical Corporation
P.O. Box 4980
The Woodlands, TX 77387-4980

TELEPHONE NUMBERS
Transportation Emergency
Company: (800) 328-8501
CHEMTREC: (800) 424-9300
Medical Emergency: (409) 722-9673 (24 Hour)
General MSDS Assistance: (281) 719-6000
Technical Information: (281) 719-7780
E-MAIL: MSDS@huntsman.com

Validation date : **12/6/2007.**

In Case of Emergency

Spills Leaks Fire or Exposure Call Chemtrec: (800) 424-9300
Medical Emergency Information: (800) 328-8501
In Mexico: 01 800 00 214 00

2 . Hazards identification

Physical state : Liquid.

Odor : Amine-like.

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Emergency overview : DANGER !

CAUSES EYE AND SKIN BURNS.
CAUSES RESPIRATORY TRACT IRRITATION.
MAY BE HARMFUL IF SWALLOWED.
ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE

Corrosive to the skin. Causes burns. Harmful if swallowed. Irritating to eyes and respiratory system. Do not breathe vapor or mist. Do not ingest. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

GENERAL INFORMATION : Read the entire MSDS for a more thorough evaluation of the hazards.

3 . Composition/information on ingredients

Name	CAS number	%
2-(2-Aminoethoxy)ethanol	929-06-6	60 - 100

4 . First aid measures

Eye contact

Get medical attention immediately. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Skin contact

Get medical attention immediately. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Inhalation

Get medical attention immediately. Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Ingestion

Get medical attention immediately. Wash out mouth with water. Move exposed person to fresh air. Do not induce vomiting unless directed to do so by medical personnel. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person.

Notes to physician : Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.

5 . Fire-fighting measures

Flash point : Closed cup: 124°C (255.2°F)

Products of combustion : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides

Extinguishing media

Suitable : Use an extinguishing agent suitable for the surrounding fire.

Not suitable : None known.

Special exposure hazards : In a fire or if heated, a pressure increase will occur and the container may burst.

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6 . Accidental release measures

Personal precautions : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

7 . Handling and storage

Handling : Put on appropriate personal protective equipment (see section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.

Storage : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

8 . Exposure controls/personal protection

Consult local authorities for acceptable exposure limits.

Preventive Measures : Conditions of use, adequacy of engineering or other control measures, and actual exposures will dictate the need for specific protective devices at your workplace.

Engineering Controls : Use local exhaust ventilation to maintain airborne concentrations below the TLV. Suitable respiratory equipment should be used in cases of insufficient ventilation or where operational procedures demand it. For guidance on engineering control measures refer to publications such as the ACGIH current edition of 'Industrial Ventilation, a manual of Recommended Practice.'

Personal protection

Eyes : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

8 . Exposure controls/personal protection

Respiratory : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

9 . Physical and chemical properties

General information

Appearance

Physical state : Liquid.

Color : Clear.

Odor : Amine-like.

Odor threshold : Not available.

Important health, safety and environmental information

pH : 11.8

Boiling point : 221°C (429.8°F)

Melting point : -12.2°C (10°F)

Flash point : Closed cup: 124°C (255.2°F)

Oxidizing properties : Not available.

Vapor pressure : <0.0013 kPa (<0.01 mm Hg)

Relative density : 1.06 (Specific gravity)

Octanol/water partition coefficient : -1.2

Viscosity : Kinematic: 0.075 cm^2/s (7.5cSt at 51.7°C)

Vapor density : 3.6 [Air = 1]

Auto-ignition temperature : 370°C (698°F)

VOC content : 99%

10 . Stability and reactivity

Stability and reactivity : The product is stable.

Incompatibility with various substances : Extremely reactive or incompatible with the following materials: acids.
Reactive or incompatible with the following materials: metals.

Hazardous polymerization : Will not occur.

Hazardous decomposition products : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides

11 . Toxicological information

Toxicity data

Acute toxicity

Product/ingredient name	Test	Species	Result	Exposure
2-(2-Aminoethoxy)ethanol	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	2560 to 3000 mg/kg	-
	LD50 Oral	Mouse	2825 mg/kg	-

11 . Toxicological information

Potential acute health effects

Ingestion : Harmful if swallowed. May cause burns to mouth, throat and stomach.
Inhalation : Irritating to respiratory system.
Eyes : Corrosive to eyes. Causes burns.
Skin : Corrosive to the skin. Causes burns.

Potential chronic health effects

Target organs : None known.
Carcinogenicity : No known significant effects or critical hazards.
Mutagenicity : No known significant effects or critical hazards.
Teratogenicity : No known significant effects or critical hazards.
Developmental effects : No known significant effects or critical hazards.
Fertility effects : No known significant effects or critical hazards.

12 . Ecological information

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
2-(2-Aminoethoxy)ethanol	-	Acute EC50 190 mg/L	Daphnia	48 hours
	-	Acute IC50 160 mg/L	Algae	72 hours
	-	Acute LC50 460 mg/L	Fish	96 hours

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
2-(2-Aminoethoxy)ethanol	-1.2	-	low

Environmental effects : This product shows a low bioaccumulation potential.

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

14 . Transport information

Transportation Emergency Number 1-800-424-9300 (CHEMTREC).

14 . Transport information

Regulatory information	UN number	Proper shipping name	Class	PG*	Label	Additional information
DOT Classification	UN3055	2-(2-Aminoethoxy)ethanol	8	III		
TDG Classification	UN3055	2-(2-Aminoethoxy)ethanol	8	III		-
IMDG Class	UN3055	2-(2-Aminoethoxy)ethanol	8	III		**Emergency schedules (EmS)** F-A, S-B
IATA-DGR Class	UN3055	2-(2-Aminoethoxy)ethanol	8	III		-

PG* : Packing group

15 . Regulatory information

United States

HCS Classification : Corrosive material

U.S. Federal regulations : **United States inventory (TSCA 8b):** All components are listed or exempted.

CERCLA: Hazardous substances. : No ingredients listed.

SARA 313 : No ingredients listed.

This product does not contain nor is it manufactured with ozone depleting substances.

California Prop 65 : No ingredients listed.

Canada

WHMIS (Canada) : Class E: Corrosive material

CEPA : **Canada inventory:** All components are listed or exempted.

This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

16 . Other information

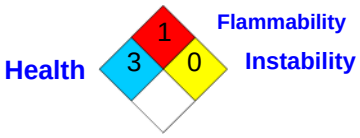
Label requirements : CAUSES EYE AND SKIN BURNS.
CAUSES RESPIRATORY TRACT IRRITATION.
MAY BE HARMFUL IF SWALLOWED.
ASPIRATION HAZARD IF SWALLOWED - CAN ENTER LUNGS AND CAUSE DAMAGE

Hazardous Material Information System (U.S.A.) :

Health	3
Fire hazard	1
Reactivity	0

16 . Other information

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



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Notice to reader

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IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity, and behavior of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behavior should be determined by the user and made known to handlers, processors and end users.

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