

Section 1. Identification

Diethylene glycol	: GHS product identifier
Not available.	: Other means of identification
Liquid.	: Product type
<input checked="" type="checkbox"/> Annex II : Diethylene glycol	: MARPOL category
Saudi Basic Industries Corporation (SABIC) P.O. Box 5101 Riyadh, 11422 Kingdom of Saudi Arabia	: Manufacturer
Asia Pacific: 001-760-476-3960 (0-24h) Middle East: 001-760-476-3959 (0h - 24h) Australia: +61 1 800 686 (0-24h) New Zealand: +64 0800 451719 (0-24h) SABIC Access Code: 333619	: Emergency telephone number (with hours of operation)

Section 2. Hazards identification

<input checked="" type="checkbox"/> ACUTE TOXICITY (oral) - Category 4 <input checked="" type="checkbox"/> SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	: Classification of the substance or mixture
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GHS label elements

	: Hazard pictograms
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Warning	: Signal word
<input checked="" type="checkbox"/> Harmful if swallowed. May cause damage to organs through prolonged or repeated exposure.	: Hazard statements
Precautionary statements	
<input checked="" type="checkbox"/> Do not breathe vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.	: Prevention
<input checked="" type="checkbox"/> Get medical attention if you feel unwell. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.	: Response
Store in accordance with all local, regional, national and international regulations.	: Storage
Dispose of contents and container in accordance with all local, regional, national and international regulations.	: Disposal
None known.	: Other hazards which do not result in classification

Section 3. Composition/information on ingredients

Substance	: Substance/mixture
Not available.	: Other means of identification
CAS number/other identifiers	
111-46-6	: CAS number
203-872-2	: EC number

Section 3. Composition/information on ingredients

CAS number	%	Ingredient name
111-46-6	>99.5	2,2'-oxybisethanol

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

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. Get medical attention following exposure or if feeling unwell. : **Eye contact**

Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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. Get medical attention following exposure or if feeling unwell. 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. : **Inhalation**

Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention following exposure or if feeling unwell. Wash clothing before reuse. Clean shoes thoroughly before reuse. : **Skin contact**

Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. 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. : **Ingestion**

Most important symptoms/effects, acute and delayed

Potential acute health effects

No known significant effects or critical hazards. : **Eye contact**
 No known significant effects or critical hazards. : **Inhalation**
 No known significant effects or critical hazards. : **Skin contact**
 Harmful if swallowed. : **Ingestion**

Over-exposure signs/symptoms

No specific data. : **Eye contact**
 No specific data. : **Inhalation**
 No specific data. : **Skin contact**
 No specific data. : **Ingestion**

Indication of immediate medical attention and special treatment needed, if necessary

Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. : **Notes to physician**
 No specific treatment. : **Specific treatments**
 No action shall be taken involving any personal risk or without suitable training. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. : **Protection of first-aiders**

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

In case of fire, use water spray (fog), foam or dry chemical.

: Suitable extinguishing media

Do not use water jet.

: Unsuitable extinguishing media

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

: Specific hazards arising from the chemical

Decomposition products may include the following materials:

carbon dioxide
carbon monoxide

: Hazardous thermal decomposition products

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 actions 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.

: Special protective equipment for fire-fighters

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

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.

: For non-emergency personnel

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

: For emergency responders

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).

: Environmental precautions

Methods and materials for containment and cleaning up

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

: Small spill

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.

: Large spill

Section 7. Handling and storage

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. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

: Precautions for safe handling

Section 7. Handling and 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. 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. See Section 10 for incompatible materials before handling or use.

: **Conditions for safe storage, including any incompatibilities**

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

None.

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

: **Recommended monitoring procedures**

If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

: **Appropriate engineering controls**

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

: **Environmental exposure controls**

Individual protection measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

: **Hygiene measures**

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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. Recommended: safety glasses with side-shields

: **Eye/face protection**

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. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): butyl rubber (> 0.30 mm), nitrile rubber (> 0.38 mm).

: **Hand protection**

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.

: **Body protection**

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

: **Other skin protection**

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use. Recommended: organic vapor filter (Type A)

: **Respiratory protection**

Section 9. Physical and chemical properties

Appearance

Liquid.	: Physical state
Colorless.	: Color
Odorless.	: Odor
Not available.	: Odor threshold
Not available.	: pH
-6.5°C (20.3°F)	: Melting point/freezing point
245°C (473°F)	: Boiling point
Closed cup: 138°C (280.4°F)	: Flash point
Open cup: 123.85°C (254.9°F)	
Not applicable.	: Burning time
Not applicable.	: Burning rate
<0.01 (butyl acetate = 1)	: Evaporation rate
Not relevant/applicable due to nature of the product. (Non-flammable.)	: Flammability (solid, gas)
Not available.	: Lower and upper explosive (flammable) limits
0.0008 kPa (0.006 mm Hg) [at Temperature (°C): 25°C]	: Vapor pressure
3.66 [Air = 1]	: Vapor density
1.1	: Relative density
Easily soluble in the following materials: cold water.	: Solubility
Not available.	
Not available.	: Partition coefficient: n-octanol/water
372°C (701.6°F)	: Auto-ignition temperature
Not available.	: Decomposition temperature
Not available.	: SADT
Dynamic (room temperature): 42 mPa·s (42 cP)	: Viscosity
Aerosol product	
22369142 J/kg	: Heat of combustion

Section 10. Stability and reactivity

No specific test data related to reactivity available for this product or its ingredients.	: Reactivity
The product is stable.	: Chemical stability
Under normal conditions of storage and use, hazardous reactions will not occur.	: Possibility of hazardous reactions
Take precautionary measures against electrostatic discharges.	: Conditions to avoid
Oxidizing agents	: Incompatible materials
Under normal conditions of storage and use, hazardous decomposition products should not be produced.	: Hazardous decomposition products

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Exposure	Dose	Species	Result	Product/ingredient name
4 hours	>4.6 mg/l	Rat	LC50 Inhalation Dusts and mists	2,2'-oxybisethanol
-	13300 mg/kg	Rabbit	LD50 Dermal	
-	1120 mg/kg	Human	LD50 Oral	
-	16500 mg/kg	Rat - Male, Female	LD50 Oral	
-	19600 mg/kg	Rat - Male	LD50 Oral	

Harmful if swallowed.

: **Conclusion/Summary**

Irritation/Corrosion

Observation	Exposure	Score	Species	Result	Product/ingredient name
✓	-	0	Rabbit	Skin - Non-irritating	2,2'-oxybisethanol
-	-	0	Human	Skin - Non-irritating	
-	-	0	Rabbit	Eyes - Non-irritating	
-	-	11.67	Rabbit	Eyes - Non-irritating	

Conclusion/Summary

Based on available data, the classification criteria are not met.

: **Skin**

Based on available data, the classification criteria are not met.

: **Eyes**

No known significant effects or critical hazards.

: **Respiratory**

Sensitization

Result	Species	Route of exposure	Product/ingredient name
Not sensitizing	Guinea pig	skin	2,2'-oxybisethanol

Conclusion/Summary

Non-sensitizer to skin.

: **Skin**

No known significant effects or critical hazards.

: **Respiratory**

Mutagenicity

Result	Experiment	Test	Product/ingredient name
Negative	Experiment: In vitro Subject: Bacteria	EU B.4 B.4 Acute Toxicity: Dermal Irritation/corrosion	2,2'-oxybisethanol
Negative	Experiment: In vitro Subject: Mammalian-Animal	OECD 474 474 Mammalian Erythrocyte Micronucleus Test	
Negative	Experiment: In vitro Subject: Mammalian-Animal	OECD 473 473 <i>In vitro</i> Mammalian Chromosomal Aberration Test	

Based on available data, the classification criteria are not met.

: **Conclusion/Summary**

Carcinogenicity

Exposure	Dose	Species	Result	Product/ingredient name
-	1210 mg/kg	Rat - Male	Negative - Oral - TDLo	2,2'-oxybisethanol
-	1160 mg/kg	Rat - Female	Negative - Oral - TDLo	

Based on available data, the classification criteria are not met.

: **Conclusion/Summary**

Reproductive toxicity

Section 11. Toxicological information

Exposure	Dose	Species	Development toxin	Fertility	Maternal toxicity	Product/ingredient name
-	Oral: 3060 mg/ kg	Mouse	Negative	Negative	Negative	2,2'-oxybisethanol
-	Oral: 2200 mg/ kg	Rat	Negative	Negative	Negative	

Based on available data, the classification criteria are not met.

: **Conclusion/Summary**

Teratogenicity

Exposure	Dose	Species	Result	Product/ingredient name
7 days per week	1 mg/kg	Rat	Negative - Oral	2,2'-oxybisethanol

Based on available data, the classification criteria are not met.

: **Conclusion/Summary**

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Target organs	Route of exposure	Category	Name
Not determined	Not determined	Category 2	2,2'-oxybisethanol

Aspiration hazard

Not available.

Routes of entry anticipated: Oral, Dermal, Inhalation.

: **Information on the likely routes of exposure**

Potential acute health effects

No known significant effects or critical hazards.

: **Eye contact**

No known significant effects or critical hazards.

: **Inhalation**

No known significant effects or critical hazards.

: **Skin contact**

Harmful if swallowed.

: **Ingestion**

Symptoms related to the physical, chemical and toxicological characteristics

No specific data.

: **Eye contact**

No specific data.

: **Inhalation**

No specific data.

: **Skin contact**

No specific data.

: **Ingestion**

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Not available.

: **Potential immediate effects**

Not available.

: **Potential delayed effects**

Long term exposure

Not available.

: **Potential immediate effects**

Not available.

: **Potential delayed effects**

Potential chronic health effects

Not available.

Based on available data, the classification criteria are not met.

: **Conclusion/Summary**

May cause damage to organs through prolonged or repeated exposure.

: **General**

No known significant effects or critical hazards.

: **Carcinogenicity**

Section 11. Toxicological information

No known significant effects or critical hazards.
 No known significant effects or critical hazards.
 No known significant effects or critical hazards.
 No known significant effects or critical hazards.

: **Mutagenicity**
 : **Teratogenicity**
 : **Developmental effects**
 : **Fertility effects**

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

Toxicity

Exposure	Species	Result	Product/ingredient name
24 hours	Daphnia - Daphnia magna	Acute EC50 >10000 mg/l Fresh water	2,2'-oxybisethanol
96 hours	Fish - Pimephales promelas	Acute LC50 75200 mg/l	

Based on available data, the classification criteria are not met.

: **Conclusion/Summary**

Persistence and degradability

Biodegradability	Photolysis	Aquatic half-life	Product/ingredient name
Readily	50%; < 28 day(s)	-	Diethylene glycol

Bioaccumulative potential

Potential	BCF	LogP _{ow}	Product/ingredient name
low	100	-1.98	2,2'-oxybisethanol

Mobility in soil

1

: **Soil/water partition coefficient (K_{oc})**

No known significant effects or critical hazards.

: **Other adverse effects**

Section 13. Disposal considerations

The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

: **Disposal methods**

Section 14. Transport information

IATA	IMDG	UN	
Not regulated.	Not regulated.	Not regulated.	UN number
-	-	-	UN proper shipping name
-	-	-	Transport hazard class(es)
-	-	-	Packing group
No.	No.	No.	Environmental hazards
-	Remarks Transport in bulk according to Annex II of MARPOL and the IBC Code	-	Additional information

Transport in bulk according to Annex I/II of Marpol and the IBC Code

Diethylene Glycol

: Proper shipping name

Z

: Pollution category

Section 15. Regulatory information

No known specific national and/or regional regulations applicable to this product (including its ingredients).

: Safety, health and environmental regulations specific for the product

Chemical Weapons Convention List Schedule I Chemicals : Not listed

Chemical Weapons Convention List Schedule II Chemicals : Not listed

Chemical Weapons Convention List Schedule III Chemicals : Not listed

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



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Section 15. Regulatory information

Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Section 16. Other information

History

11/20/2019

: Date of printing

11/20/2019

: Date of issue/Date of revision

2/23/2018

: Date of previous issue

8

: Version

ADN = European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway

: Key to abbreviations

ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road

ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC Code = International Bulk Chemical Code

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail

UN = United Nations

Not available.

: References

Indicates information that has changed from previously issued version.

Notice to reader

The information contained in the Safety Data Sheet is at the date of its issuance to the best of our knowledge correct according to the data available to us. The information is meant as a guideline for safe use, handling, disposal, storage and transport of products and does not imply any warranty (not implied nor explicitly) or specification. The Supplier shall to the extent permitted by law not be liable for any error or incorrectness in the information contained in this Safety Data Sheet. The information relates exclusively to the specified products, which may not be suitable for combination with other materials or use in processes other than those specifically described here.