

SAFETY DATA SHEET



Section 1. Identification

GHS product identifier :
Product code : Not available.
Other means of identification : Not available.
Product type : Liquid.

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Thermal Barrier Polymer Part "B".

Manufacturer :

Emergency telephone number (with hours of operation) : CHEMTREC, U.S. : 1-800-424-9300
International: +1-703-527-3887
24/7


Section 2. Hazards identification

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

Classification of the substance or mixture : ACUTE TOXICITY (inhalation) - Category 4
SKIN CORROSION/IRRITATION - Category 2
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
CARCINOGENICITY - Category 2
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements

Section 2. Hazards identification

Hazard pictograms	:	
Signal word	:	Danger
Hazard statements	:	H332 - Harmful if inhaled. H319 - Causes serious eye irritation. H315 - Causes skin irritation. H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled. H317 - May cause an allergic skin reaction. H351 - Suspected of causing cancer. H373 - May cause damage to organs through prolonged or repeated exposure.
Precautionary statements		
Prevention	:	P201 - Obtain special instructions before use. P202 - Do not handle until all safety precautions have been read and understood. P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing. P284 - Wear respiratory protection. P271 - Use only outdoors or in a well-ventilated area. P260 - Do not breathe vapor. P264 - Wash hands thoroughly after handling. P272 (OSHA) - Contaminated work clothing must not be allowed out of the workplace.
Response	:	P314 - Get medical attention if you feel unwell. P308 + P313 - IF exposed or concerned: Get medical attention. P304 + P341 (OSHA) + P312 - IF INHALED: If breathing is difficult, remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or physician. P302 + P352 + P363 - IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. P333 + P313 - If skin irritation or rash occurs: Get medical attention. P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 - If eye irritation persists: Get medical attention.
Storage	:	P405 - Store locked up.
Disposal	:	P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	:	None known.

Section 3. Composition/information on ingredients

Substance/mixture	:	Mixture
Other means of identification	:	Not available.

Ingredient name	%	CAS number
2,2'-Oxybisethanol	≥10 - ≤18	111-46-6
Isocyanic Acid, Polymethylenepolyphenylene Ester	≥3 - ≤5	9016-87-9
Ethanediol	≥3 - ≤4.6	107-21-1
N-[3-(dimethylamino)propyl]-N,N',N'-trimethylpropane-1,3-diamine	≥1 - ≤2.7	3855-32-1
4,4'-Methylenediphenyl Diisocyanate	≥1 - ≤3	101-68-8

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

Section 3. Composition/information on ingredients

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

- Eye contact** : 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 20 minutes. Get medical attention.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. 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. If necessary, call a poison center or physician. 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. In the event of any complaints or symptoms, avoid further exposure.
- Skin contact** : Wash with plenty of soap and water. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 20 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : 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. 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.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
- Skin contact** : Adverse symptoms may include the following:
irritation
redness

Section 4. First aid measures

Ingestion : No known significant effects or critical hazards.

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

Notes to physician : 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.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

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

Unsuitable extinguishing media : None known.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

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

Special protective actions for fire-fighters : 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.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : 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 emergency responders : 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".

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 and materials for containment and cleaning up

Section 6. Accidental release measures

- 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.

Section 7. Handling and storage

Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

- Advice on general occupational hygiene** : 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. See also Section 8 for additional information on hygiene measures. Remove contaminated clothing and protective equipment before entering eating areas.

- Conditions for safe storage, including any incompatibilities** : 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. Store locked up. 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.

Section 8. Exposure controls/personal protection

Control parameters

United States

Occupational exposure limits

Ingredient name	Exposure limits
2,2' -Oxybisethanol	AIHA WEEL (United States, 10/2011). TWA: 10 mg/m ³ 8 hours.
Isocyanic Acid, Polymethylenepolyphenylene Ester Ethanediol	None. ACGIH TLV (United States, 3/2017). STEL: 10 mg/m ³ 15 minutes. Form: Inhalable fraction. Aerosol only STEL: 50 ppm 15 minutes. Form: Vapor fraction TWA: 25 ppm 8 hours. Form: Vapor fraction
N-[3-(dimethylamino)propyl]-N,N',N'-trimethylpropane-1,3-diamine 4,4'-Methylenediphenyl Diisocyanate	None. ACGIH TLV (United States, 3/2017). TWA: 0.005 ppm 8 hours. NIOSH REL (United States, 10/2016). TWA: 0.05 mg/m ³ 10 hours. TWA: 0.005 ppm 10 hours. CEIL: 0.2 mg/m ³ 10 minutes. CEIL: 0.02 ppm 10 minutes. OSHA PEL (United States, 6/2016).

Section 8. Exposure controls/personal protection

CEIL: 0.02 ppm
CEIL: 0.2 mg/m³

Canada

Occupational exposure limits

Ingredient name	Exposure limits
2,2' -Oxybisethanol	AIHA WEEL (United States, 10/2011). TWA: 10 mg/m ³ 8 hours.
Isocyanic Acid, Polymethylenepolyphenylene Ester	CA Alberta Provincial (Canada, 4/2009). 8 hrs OEL: 0.07 mg/m ³ 8 hours. 8 hrs OEL: 0.005 ppm 8 hours. CA British Columbia Provincial (Canada, 7/2016). TWA: 0.005 ppm 8 hours. C: 0.01 ppm CA Ontario Provincial (Canada, 7/2015). C: 0.02 ppm TWA: 0.005 ppm 8 hours.
Ethanediol	CA Ontario Provincial (Canada, 7/2015). C: 100 mg/m ³ Form: Aerosol only CA British Columbia Provincial (Canada, 7/2016). C: 100 mg/m ³ Form: Aerosol. TWA: 10 mg/m ³ 8 hours. Form: Particulate. STEL: 20 mg/m ³ 15 minutes. Form: Particulate. C: 50 ppm Form: Vapor CA Saskatchewan Provincial (Canada, 7/2013). CEIL: 100 mg/m ³ Form: Aerosol. CA Quebec Provincial (Canada, 1/2014). STEV: 50 ppm 15 minutes. Form: Vapor and mist STEV: 127 mg/m ³ 15 minutes. Form: Vapor and mist CA Alberta Provincial (Canada, 4/2009). C: 100 mg/m ³
4,4'-Methylenediphenyl Diisocyanate	CA Alberta Provincial (Canada, 4/2009). 8 hrs OEL: 0.005 ppm 8 hours. 8 hrs OEL: 0.05 mg/m ³ 8 hours. CA British Columbia Provincial (Canada, 7/2016). Absorbed through skin. Skin sensitizer. TWA: 0.005 ppm 8 hours. C: 0.01 ppm CA Quebec Provincial (Canada, 1/2014). Skin sensitizer. TWA EV: 0.005 ppm 8 hours. TWA EV: 0.051 mg/m ³ 8 hours. CA Ontario Provincial (Canada, 7/2015). TWA: 0.005 ppm 8 hours. CA Saskatchewan Provincial (Canada, 7/2013). STEL: 0.015 ppm 15 minutes. TWA: 0.005 ppm 8 hours.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

Individual protection measures

Hygiene 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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 8. Exposure controls/personal protection

- Eye/face protection** : 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: chemical splash goggles.
- Skin protection**
- Hand 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.
- Body 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.
- Other skin 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.
- Respiratory 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.

Section 9. Physical and chemical properties

Appearance

- Physical state** : Liquid.
- Color** : Clear Purple to Black.
- Odor** : Slight.
- Odor threshold** : Not available.
- pH** : Not available.
- Melting point** : Not available.
- Boiling point** : Not available.
- Flash point** : Closed cup: >93.3°C (>199.9°F)
- Evaporation rate** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : Not available.
- Solubility** : Slightly soluble in water.
- Partition coefficient: n-octanol/water** : Not available.
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Viscosity** : Not available.
- Flow time (ISO 2431)** : Not available.

Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable. Reacts with Isocyanates.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : No specific data.
- Incompatible materials** : Reactive or incompatible with the following materials: oxidizing materials and alkalis.
- Hazardous decomposition products** : Carbon monoxide, carbon dioxide, nitrogen oxides.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
2,2' -Oxybisethanol	LD50 Dermal	Rabbit	11890 mg/kg	-
	LD50 Oral	Rat	12000 mg/kg	-
Isocyanic Acid, Polymethylenepolyphenylene Ester	LC50 Inhalation Vapor	Rat	490 mg/m ³	4 hours
	LD50 Dermal	Rabbit	>9400 mg/kg	-
	LD50 Oral	Rat	49 g/kg	-
Ethanediol	LD50 Oral	Rat	4700 mg/kg	-
4,4'-Methylenediphenyl Diisocyanate	LD50 Oral	Rat	9200 mg/kg	-

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
2,2' -Oxybisethanol	Eyes - Mild irritant	Rabbit	-	50 mg	-
	Skin - Mild irritant	Human	-	72 hours 112 mg	-
				Intermittent	
Isocyanic Acid, Polymethylenepolyphenylene Ester	Skin - Mild irritant	Rabbit	-	500 mg	-
	Eyes - Mild irritant	Rabbit	-	100 mg	-
Ethanediol	Eyes - Mild irritant	Rabbit	-	24 hours 500 mg	-
	Eyes - Mild irritant	Rabbit	-	1 hours 100 mg	-
	Eyes - Moderate irritant	Rabbit	-	6 hours 1440 mg	-
	Skin - Mild irritant	Rabbit	-	555 mg	-
4,4'-Methylenediphenyl Diisocyanate	Eyes - Moderate irritant	Rabbit	-	100 mg	-

Sensitization

There is no data available.

Mutagenicity

There is no data available.

Carcinogenicity

Classification

Product/ingredient name	OSHA	IARC	NTP
Isocyanic Acid, Polymethylenepolyphenylene Ester	-	3	-
4,4'-Methylenediphenyl Diisocyanate	-	3	-

Reproductive toxicity

There is no data available.

Section 11. Toxicological information

Teratogenicity

There is no data available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Isocyanic Acid, Polymethylenepolyphenylene Ester 4,4'-Methylenediphenyl Diisocyanate	Category 3 Category 3	Not applicable. Not applicable.	Respiratory tract irritation Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Name	Category	Route of exposure	Target organs
Isocyanic Acid, Polymethylenepolyphenylene Ester 4,4'-Methylenediphenyl Diisocyanate	Category 2 Category 2	Not determined Not determined	Not determined Not determined

Aspiration hazard

There is no data available.

Information on the likely routes of exposure : Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : Harmful if inhaled. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain or irritation
watering
redness
- Inhalation** : Adverse symptoms may include the following:
wheezing and breathing difficulties
asthma
- Skin contact** : Adverse symptoms may include the following:
irritation
redness
- Ingestion** : No known significant effects or critical hazards.

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

Short term exposure

- Potential immediate effects** : No known significant effects or critical hazards.
- Potential delayed effects** : No known significant effects or critical hazards.

Long term exposure

- Potential immediate effects** : No known significant effects or critical hazards.
- Potential delayed effects** : No known significant effects or critical hazards.

Potential chronic health effects

Section 11. Toxicological information

- General** : May cause damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Carcinogenicity** : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.
- 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.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	3071.7 mg/kg
Inhalation (vapors)	14.92 mg/L
Inhalation (dusts and mists)	106.6 mg/L

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
2,2' -Oxybisethanol Ethanediol	Acute LC50 75200000 µg/L Fresh water	Fish - Pimephales promelas	96 hours
	Acute LC50 69000000 µg/L Fresh water	Crustaceans - Ceriodaphnia dubia - Neonate	48 hours
	Acute LC50 41000000 µg/L Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 80500000 µg/L Fresh water	Fish - Pimephales promelas	96 hours

Persistence and degradability

There is no data available.

Bioaccumulative potential

Product/ingredient name	LogP _{ow}	BCF	Potential
2,2' -Oxybisethanol	-1.98	100	low
Ethanediol	-1.36	-	low
N-[3-(dimethylamino)propyl]-N,N',N'-trimethylpropane-1,3-diamine	-	2	low
4,4'-Methylenediphenyl Diisocyanate	4.51	200	low

Mobility in soil

- Soil/water partition coefficient (K_{oc})** : Not available.

- Other adverse effects** : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should 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 empty 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.

Section 14. Transport information

	DOT Classification	TDG Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-
Transport hazard class(es)	-	-	-	-
Packing group	-	-	-	-
Environmental hazards	No.	No.	No.	No.

AERG : Not applicable

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 4(a) final test rules:** Acetaldehyde
TSCA 5(a)2 final significant new use rules: 2-Methoxyethanol
TSCA 8(a) PAIR: 4,4'-Methylenediphenyl Diisocyanate; Acetaldehyde
TSCA 8(a) CDR Exempt/Partial exemption: Not determined
United States inventory (TSCA 8b): All components are listed or exempted.
TSCA 8(c) calls for record of SAR: Isocyanic Acid, Polymethylenepolyphenylene Ester; 4,4'-Methylenediphenyl Diisocyanate
Clean Water Act (CWA) 307: 4,4'-Methylenediphenyl Diisocyanate
Clean Water Act (CWA) 311: Acetaldehyde; Aniline

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Section 15. Regulatory information

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

Name	EHS	SARA 302 TPQ		SARA 304 RQ	
		(lbs)	(gallons)	(lbs)	(gallons)
Aniline	Yes.	1000	117.6	5000	587.9

SARA 304 RQ : 55555555.6 lbs / 25222222.2 kg

SARA 311/312

Classification : Immediate (acute) health hazard
Delayed (chronic) health hazard

Composition/information on ingredients

Name	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
2,2' -Oxybisethanol	No.	No.	No.	Yes.	No.
Isocyanic Acid, Polymethylenepolyphenylene Ester	No.	No.	No.	Yes.	Yes.
Ethenediol	No.	No.	No.	Yes.	No.
N-[3-(dimethylamino)propyl]-N,N',N'-trimethylpropane-1,3-diamine	No.	No.	No.	Yes.	No.
4,4'-Methylenediphenyl Diisocyanate	No.	No.	No.	Yes.	Yes.

SARA 313

	Product name	CAS number
Form R - Reporting requirements	Isocyanic Acid, Polymethylenepolyphenylene Ester Ethenediol 4,4'-Methylenediphenyl Diisocyanate	9016-87-9 107-21-1 101-68-8
Supplier notification	Isocyanic Acid, Polymethylenepolyphenylene Ester Ethenediol 4,4'-Methylenediphenyl Diisocyanate	9016-87-9 107-21-1 101-68-8

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

Massachusetts : The following components are listed: Ethenediol; 4,4'-Methylenediphenyl Diisocyanate

New York : The following components are listed: Ethenediol; 4,4'-Methylenediphenyl Diisocyanate

New Jersey : The following components are listed: Ethenediol; Isocyanic Acid, Polymethylenepolyphenylene Ester; 4,4'-Methylenediphenyl Diisocyanate

Pennsylvania : The following components are listed: 2,2' -Oxybisethanol; Ethenediol; Oxydipropanol; 4,4'-Methylenediphenyl Diisocyanate

California Prop. 65

⚠ WARNING: This product can expose you to chemicals including 1,4-Dioxane, Acetaldehyde, Aniline, which are known to the State of California to cause cancer, and Ethenediol, 2-Methoxyethanol, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Section 15. Regulatory information

Ingredient name	No significant risk level	Maximum acceptable dosage level
Ethenediol	-	Yes.
1,4-Dioxane	Yes.	-
2-Methoxyethanol	-	Yes.
Acetaldehyde	Yes.	-
Aniline	Yes.	-

Canada

Canadian lists

Canadian NPRI : The following components are listed: Ethenediol; Isocyanic Acid, Polymethylenepolyphenylene Ester; 4,4'-Methylenediphenyl Diisocyanate

CEPA Toxic substances : None of the components are listed.

Canada inventory : All components are listed or exempted.

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (inhalation) - Category 4	Calculation method
SKIN CORROSION/IRRITATION - Category 2	Calculation method
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A	Calculation method
RESPIRATORY SENSITIZATION - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
CARCINOGENICITY - Category 2	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method

History

Date of issue mm/dd/yyyy : 01/30/2018

Date of previous issue : Not applicable

Version : 1

Prepared by : KMK Regulatory Services Inc.

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.