SAFETY DATA SHEET

COSMO® PU-160.190

(COSMOPUR 814)

Section 1. Identification

GHS product identifier : COSMO® PU-160.190

(COSMOPUR 814)

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

Product use : Adhesive.

Area of application : Professional applications.

Supplier's details : Weiss USA LLC
P.O. Box: 509
USA, Monroe, NC 28111-0509
Telephone no.: (001) 704 282 4496

Email: Stephen@weiss-usa.com

e-mail address of person responsible for this SDS : info@chemical-check.de; k.schnurbusch@chemical-check.de

Emergency telephone number (with hours of operation) : +49 (0) 700 / 24 112 112 (WIC)
+1 872 5888271 (WIC)

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 :

H332	ACUTE TOXICITY (inhalation) - Category 4
H315	SKIN IRRITATION - Category 2
H319	EYE IRRITATION - Category 2A
H334	RESPIRATORY SENSITIZATION - Category 1
H317	SKIN SENSITIZATION - Category 1
H335	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
H373	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

GHS label elements

Section 2. Hazards identification

Hazard pictograms :

Signal word : Danger

Hazard statements : H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H332 - Harmful if inhaled.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 - May cause respiratory irritation.
H373 - May cause damage to organs through prolonged or repeated exposure. (respiratory tract)

Precautionary statements

Prevention : P280 - Wear protective gloves: 4 - 8 hours (breakthrough time): Recommended: Nitrile gloves. (≥ 0.35 mm). Protective hand cream.. Wear eye or face protection.
P284 - Wear respiratory protection: Recommended: Filter A2 P2.
P271 - Use only outdoors or in a well-ventilated area.
P260 - Do not breathe vapor.
P264 - Wash thoroughly after handling.
P272 - Contaminated work clothing must not be allowed out of the workplace.

Response : P314 - Get medical advice or attention if you feel unwell.
P304 + P340, P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
P342 + P311 - If experiencing respiratory symptoms: Call a POISON CENTER or doctor.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
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 advice or attention.

Storage : P405 - Store locked up.
P403 + P233 - Store in a well-ventilated place. Keep container tightly closed.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Hazards not otherwise classified : None known.

Hazards identified when used : No known significant effects or critical hazards.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : Not available.

Section 3. Composition/information on ingredients

Ingredient name	Synonyms	%	Identifiers
4,4'-methylenediphenyl diisocyanate	-	≥15 - ≤40	CAS: 101-68-8
Isocyanic acid, polymethylenepolyphenylene ester	-	≥15 - ≤40	CAS: 9016-87-9
Propane-1,2-diol, propoxylated	-	≥10 - ≤30	CAS: 25322-69-4
o-(p-isocyanatobenzyl)phenyl isocyanate	-	≥10 - ≤30	CAS: 5873-54-1
γ-butyrolactone	-	≥1 - ≤5	CAS: 96-48-0
2,2'-methylenediphenyl diisocyanate	-	≥0.1 - ≤1	CAS: 2536-05-2

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

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified 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 10 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. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 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. 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 following exposure or if feeling unwell. 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 respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Section 4. First aid measures

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:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma

Skin contact : Adverse symptoms may include the following:
irritation
redness

Ingestion : No specific data.

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 : In case of fire, use water spray (fog), foam, dry chemical or CO_2.

Unsuitable extinguishing media : Do not use water jet.

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
Isocyanate
Hydrogen cyanide (HCN).
Toxic gases

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.

Section 5. Fire-fighting measures

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

Small spill : Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large 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. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. 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.

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

Section 7. Handling and storage

Conditions for safe storage, including any incompatibilities : Store between the following temperatures: 15 to 25°C (59 to 77°F). 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

Occupational exposure limits

Ingredient name	Exposure limits
4,4'-methylenediphenyl diisocyanate	**ACGIH TLV (United States, 1/2024)** TWA 8 hours: 0.005 ppm. **NIOSH REL (United States, 10/2020)** TWA 10 hours: 0.05 mg/m³. TWA 10 hours: 0.005 ppm. CEIL 10 minutes: 0.2 mg/m³. CEIL 10 minutes: 0.02 ppm. **OSHA PEL (United States, 5/2018)** CEIL: 0.02 ppm. CEIL: 0.2 mg/m³. **CAL OSHA PEL (United States, 1/2025)** TWA 8 hours: 0.051 mg/m³. TWA 8 hours: 0.005 ppm.
Isocyanic acid, polymethylenepolyphenylene ester	None.
Propane-1,2-diol, propoxylated	**OARS WEEL (United States, 9/2024)** TWA 8 hours: 10 mg/m³.
o-(p-isocyanatobenzyl)phenyl isocyanate	None.
γ-butyrolactone	None.
2,2'-methylenediphenyl diisocyanate	None.

Biological exposure indices

None known.

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. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

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. 4 - 8 hours (breakthrough time): Recommended: Nitrile gloves. (≥ 0.35 mm). Protective hand cream.

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. Recommended: Long-sleeved protective clothing. Safety shoes.

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. Recommended: Filter A2 P2

Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid.

Color : According to specification

Odor : Characteristic.

Odor threshold : Not available.

pH : Not applicable.

Melting point/freezing point : Not available.

Boiling point or initial boiling point and boiling range : Not available.

Flash point :

Ingredient name	Closed cup			Open cup		
	°C	°F	Method	°C	°F	Method
Propane-1,2-diol, propoxylated	137	278.6	EU A.9			

Evaporation rate : Not available.

Flammability : Not available.

Lower and upper explosion limit/flammability limit : Not available.

Vapor pressure :

Section 9. Physical and chemical properties

Ingredient name	Vapor Pressure at 20˚C			Vapor pressure at 50˚C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
Propane-1,2-diol, propoxylated	0.00063	0.000084	OECD 104			

Relative vapor density : Not available.

Relative density : Not available.

Density : ~1.14 g/cm³ [20°C (68°F)]

Solubility(ies) : Not available.

Miscible with water : No.

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature :

Ingredient name	°C	°F	Method
Propane-1,2-diol, propoxylated	305	581	EU A.15

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): Not available.

Particle characteristics

Median particle size : Not applicable.

Other information

Physical/chemical properties comments : No additional information.

Section 10. Stability and reactivity

Reactivity : Water reactive.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
Keep away from the following materials to prevent strong exothermic reactions: Alcohol., Amines, Water, alkalis, Acid.
Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : Protect from humidity. Keep away from heat and direct sunlight. (T >50°C).
Polymerisation due to high heat is possible. (T > 260°C)

Incompatible materials : Reactive or incompatible with the following materials: acids and alkalis.
Amines, Alcohol., Water.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	
4,4'-methylenediphenyl diisocyanate	**Rat - Oral - LD50** 9200 mg/kg	Toxic effects: Behavioral - Somnolence (general depressed activity) Behavioral - Ataxia Changes in Chemistry or Temperature - Body temperature decrease
	Rabbit - Dermal - LD50 >9400 mg/kg	OECD [Acute Dermal Toxicity]
Isocyanic acid, polymethylenepolyphenylene ester	**Rat - Oral - LD50** 49 g/kg	Toxic effects: Behavioral - Somnolence (general depressed activity) Gastrointestinal - Hypermotility, diarrhea Changes in Chemistry or Temperature - Body temperature decrease
	Rabbit - Dermal - LD50 >9400 mg/kg	
	Rat - Inhalation - LC50 Dusts and mists 490 mg/m³ [4 hours]	Toxic effects: Eye - Other Lung, Thorax, or Respiration - Respiratory depression Blood - Hemorrhage
Propane-1,2-diol, propoxylated	**Rat - Oral - LD50** 500 to 2000 mg/kg	
	Rabbit - Dermal - LD50 >3000 mg/kg	OECD [Acute Dermal Toxicity]
	Rat - Inhalation - LC50 Vapor >20 mg/l [4 hours]	
o-(p-isocyanatobenzyl)phenyl isocyanate	**Rat - Oral - LD50** >2000 mg/kg	
	Rabbit - Dermal - LD50 >9400 mg/kg	OECD [Acute Dermal Toxicity]
γ-butyrolactone	**Rat - Oral - LD50** 1540 mg/kg	Toxic effects: Behavioral - Altered sleep time (including change in righting reflex) Behavioral - Somnolence (general depressed activity) Lung, Thorax, or Respiration - Respiratory depression
	Rat - Male, Female - Inhalation - LC50 Dusts and mists >5.1 mg/l [4 hours]	OECD [Acute Inhalation Toxicity]
2,2'-methylenediphenyl diisocyanate	**Rabbit - Dermal - LD50** >9400 mg/kg	OECD [Acute Dermal Toxicity]
	Rat - Oral - LD50 >2000 mg/kg	EU

Conclusion/Summary [Product] : Not available.

Ingredient name	Conclusion/Summary
Isocyanic acid, polymethylenepolyphenylene ester	LC50 value will varie with particle size particle size distribution tested.

Skin corrosion/irritation

Product/ingredient name	Result

Section 11. Toxicological information

4,4'-methylenediphenyl diisocyanate	**Rabbit - Skin - Irritant**	OECD [Acute Dermal Irritation/ Corrosion]
Isocyanic acid, polymethylenepolyphenylene ester	**Rabbit - Skin - Irritant**	OECD [Acute Dermal Irritation/ Corrosion]
Propane-1,2-diol, propoxylated	**Rabbit - Skin - Mild irritant** Amount/concentration applied: 500 mg **Rabbit - Skin - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg **Rabbit - Skin - Mild irritant** Amount/concentration applied: 500 mg **Rabbit - Skin - Mild irritant** Amount/concentration applied: 500 mg **Rabbit - Skin - Mild irritant** Amount/concentration applied: 500 mg **Rabbit - Skin - Mild irritant** Amount/concentration applied: 500 mg	
o-(p-isocyanatobenzyl)phenyl isocyanate	**Rabbit - Skin - Irritant**	OECD [Acute Dermal Irritation/ Corrosion]
γ-butyrolactone	**Rabbit - Skin - Severe irritant** Amount/concentration applied: 500 uL	
2,2'-methylenediphenyl diisocyanate	**Rabbit - Skin - Irritant**	OECD [Acute Dermal Irritation/ Corrosion]

Conclusion/Summary [Product] : Not available.

Serious eye damage/eye irritation

Product/ingredient name	Result	
4,4'-methylenediphenyl diisocyanate	**Rabbit - Eyes - Moderate irritant** Amount/concentration applied: 100 mg	
Isocyanic acid, polymethylenepolyphenylene ester	**Rabbit - Eyes - Mild irritant** Amount/concentration applied: 100 mg	
Propane-1,2-diol, propoxylated	**Rabbit - Eyes - Mild irritant** Duration of treatment/exposure: 24 hours Amount/concentration applied: 500 mg **Rabbit - Eyes - Mild irritant** Amount/concentration applied: 500 mg	
2,2'-methylenediphenyl diisocyanate	**Rabbit - Eyes - Irritant**	OECD [Acute Eye Irritation/Corrosion]

Conclusion/Summary [Product] : Not available.

Respiratory corrosion/irritation

Conclusion/Summary [Product] : Not available.

Respiratory or skin sensitization

Product/ingredient name	Result

Section 11. Toxicological information

4,4'-methylenediphenyl diisocyanate	**Mouse - skin** Result: Sensitizing **Guinea pig - Respiratory** Result: Sensitizing	OECD [Skin Sensitization: Local Lymph Node Assay]
Isocyanic acid, polymethylenepolyphenylene ester	**Guinea pig - skin** Result: Sensitizing	OECD [Skin Sensitization]
Propane-1,2-diol, propoxylated	**Mouse - skin** Result: Not sensitizing	Skin Sensitization: Local Lymph Node Assay
o-(p-isocyanatobenzyl)phenyl isocyanate	**Mouse - skin** Result: Sensitizing	OECD [Skin Sensitization: Local Lymph Node Assay]
γ-butyrolactone	**Mouse - skin** Result: Not sensitizing	OECD [Skin Sensitization: Local Lymph Node Assay]
2,2'-methylenediphenyl diisocyanate	**Mouse - skin** Result: Sensitizing	OECD [Skin Sensitization: Local Lymph Node Assay]

Skin

Conclusion/Summary [Product] : Not available.

Respiratory

Conclusion/Summary [Product] : Not available.

Germ cell mutagenicity

Product/ingredient name	Result	
Propane-1,2-diol, propoxylated	**Bacteria** Result: Negative	Bacterial Reverse Mutation Test
2,2'-methylenediphenyl diisocyanate	**Bacteria** Result: Negative	OECD [Bacterial Reverse Mutation Test]

Conclusion/Summary [Product] : Not available.

Carcinogenicity

Conclusion/Summary [Product] : Not available.

Classification

Product/ingredient name	OSHA	IARC	NTP
4,4'-methylenediphenyl diisocyanate	-	3	-
Isocyanic acid, polymethylenepolyphenylene ester	-	3	-
γ-butyrolactone	-	3	-

Reproductive toxicity

Conclusion/Summary [Product] : Not available.

Specific target organ toxicity (single exposure)

Section 11. Toxicological information

Product/ingredient name	Result
4,4'-methylenediphenyl diisocyanate	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
Isocyanic acid, polymethylenepolyphenylene ester	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
o-(p-isocyanatobenzyl)phenyl isocyanate	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
γ-butyrolactone	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
2,2'-methylenediphenyl diisocyanate	SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Result
4,4'-methylenediphenyl diisocyanate	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (respiratory tract) (inhalation) - Category 2
Isocyanic acid, polymethylenepolyphenylene ester	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (respiratory tract) - Category 2
o-(p-isocyanatobenzyl)phenyl isocyanate	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (respiratory tract) - Category 2
2,2'-methylenediphenyl diisocyanate	SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (respiratory tract) - Category 2

Aspiration hazard

Not available.

Information on the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

Potential acute health effects

Eye contact : Causes serious eye irritation.

Inhalation : Harmful if inhaled. May cause respiratory irritation. 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:
respiratory tract irritation
coughing
wheezing and breathing difficulties
asthma

Skin contact : Adverse symptoms may include the following:
irritation
redness

Section 11. Toxicological information

Ingestion : No specific data.

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

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Conclusion/Summary [Product] : Not available.

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 : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
COSMO® PU-160.190 (COSMOPUR 814)	2818.5	17307.4	N/A	N/A	2.3
4,4'-methylenediphenyl diisocyanate	9200	N/A	N/A	N/A	1.5
Isocyanic acid, polymethylenepolyphenylene ester	49000	N/A	N/A	N/A	1.5
Propane-1,2-diol, propoxylated	500	2500	N/A	N/A	N/A
o-(p-isocyanatobenzyl)phenyl isocyanate	2500	N/A	N/A	N/A	1.5
γ-butyrolactone	1540	N/A	N/A	N/A	N/A
2,2'-methylenediphenyl diisocyanate	2500	N/A	N/A	N/A	1.5

Section 12. Ecological information

Toxicity

Product/ingredient name **Result**

Section 12. Ecological information

4,4'-methylenediphenyl diisocyanate	**Acute - LC50** Fish - *Brachydanio rerio* >1000 mg/l [96 hours]	OECD [Fish, Acute Toxicity Test]
	NOEC Algae - *Desmodesmus subspicatus* 1640 mg/l [72 hours]	OECD [Alga, Growth Inhibition Test]
	Acute - EC50 Algae - *Desmodesmus subspicatus* 1640 mg/l [72 hours]	OECD [Alga, Growth Inhibition Test]
Isocyanic acid, polymethylenepolyphenylene ester	**Acute - LC50** Fish - *Brachydanio rerio* >1000 mg/l [96 hours]	OECD [Fish, Acute Toxicity Test]
	NOEC Daphnia - *Daphnia magna* >10 mg/l [21 days]	OECD [Daphnia sp. Acute Immobilization Test and Reproduction Test]
	Acute - EC50 Algae - *Scenedesmus subspicatus* >1640 mg/l [72 hours]	OECD [Alga, Growth Inhibition Test]
Propane-1,2-diol, propoxylated	**Acute - EC50** Daphnia - *Daphnia magma* >100 mg/l [48 hours]	
	Acute - LC50 - Marine water Fish - Inland silverside - *Menidia beryllina* 650 ppm [96 hours]	Effect: Mortality
o-(p-isocyanatobenzyl)phenyl isocyanate	**Acute - LC50** Fish - *Brachydanio rerio* >1000 mg/l [96 hours]	OECD [Fish, Acute Toxicity Test]
	Acute - NOEC Daphnia - *Daphnia magna* >10 mg/l [21 days]	OECD [Daphnia sp. Acute Immobilization Test and Reproduction Test]
γ-butyrolactone	**Acute - LC50 - Fresh water** Fish - *Lepomis macrochirus* 56 mg/l [96 hours]	OECD [Fish, Acute Toxicity Test]
	Acute - NOEC - Fresh water Fish - *Lepomis macrochirus* 18 mg/l [96 hours]	OECD [Fish, Acute Toxicity Test]
	Acute - EC50 - Fresh water Daphnia - *Daphnia magma* >500 mg/l [48 hours]	EU Method C.2
	Acute - EC50 - Fresh water Algae - *Desmodesmus subspicatus* >1000 mg/l [72 hours]	
	Acute - NOEC - Fresh water Algae - *Desmodesmus subspicatus* <7.81 mg/l [72 hours]	
2,2'-methylenediphenyl diisocyanate	**Acute - LC50** Fish - *Brachydanio rerio* >1000 mg/l [96 hours]	OECD [Fish, Acute Toxicity Test]
	NOEC Daphnia - *Daphnia magna* >10 mg/l [21 days]	OECD [Daphnia sp. Acute Immobilization Test and Reproduction Test]
	Acute - EC50 Algae - *Scenedesmus subspicatus*	OECD [Alga, Growth Inhibition Test]

United States

Section 12. Ecological information

>1640 mg/l [72 hours]

Conclusion/Summary [Product] : Not available.

Persistence and degradability

Product/ingredient name	Result	
4,4'-methylenediphenyl diisocyanate	0% [28 days]	OECD [Inherent Biodegradability: Modified MITI Test (II)]
Isocyanic acid, polymethylenepolyphenylene ester	0% [28 days]	OECD [Inherent Biodegradability: Modified MITI Test (II)]
Propane-1,2-diol, propoxylated	87% [28 days]	Ready Biodegradability - Manometric Respirometry Test
o-(p-isocyanatobenzyl)phenyl isocyanate	0% [28 days]	OECD [Inherent Biodegradability: Modified MITI Test (II)]
γ-butyrolactone	**Aerobic - 100 mg/l** 77% [14 days] - Readily	OECD [Ready Biodegradability - Modified MITI Test (I)]
2,2'-methylenediphenyl diisocyanate	0% [28 days]	OECD [Inherent Biodegradability: Modified MITI Test (II)]

Conclusion/Summary [Product] : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
4,4'-methylenediphenyl diisocyanate	-	-	Not readily
Isocyanic acid, polymethylenepolyphenylene ester	-	-	Not readily
Propane-1,2-diol, propoxylated	-	-	Readily
o-(p-isocyanatobenzyl)phenyl isocyanate	-	-	Not readily
γ-butyrolactone	-	-	Readily
2,2'-methylenediphenyl diisocyanate	-	-	Not readily

Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
4,4'-methylenediphenyl diisocyanate	4.51	200 [OECD 305 E]	Low
Isocyanic acid, polymethylenepolyphenylene ester	-	<14	Low
Propane-1,2-diol, propoxylated	-0.68 to 0.01	-	Low
o-(p-isocyanatobenzyl)phenyl isocyanate	4.51	200 [OECD 305 E]	Low
γ-butyrolactone	-0.566	-	Low
2,2'-methylenediphenyl diisocyanate	5.22	200 [OECD 305 E]	Low

Mobility in soil

Section 12. Ecological information

Soil/Water partition coefficient : 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 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.

Section 14. Transport information

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

Additional information

DOT Classification : **Reportable quantity** 14548.4 lbs / 6605 kg [1530.6 gal / 5793.8 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

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.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

U.S. Federal regulations : **TSCA 8(a) PAIR**: 4,4'-methylenediphenyl diisocyanate; o-(p-isocyanatobenzyl)phenyl isocyanate; acetaldehyde

TSCA 8(a) CDR Exempt/Partial exemption: Not determined

TSCA 8(c) calls for record of SAR: 4,4'-methylenediphenyl diisocyanate; Isocyanic acid, polymethylenepolyphenylene ester; o-(p-isocyanatobenzyl)phenyl isocyanate; 2,2'-methylenediphenyl diisocyanate

United States inventory (TSCA 8b): Not determined.

Clean Water Act (CWA) 311: benzoyl chloride; propylene oxide; acetaldehyde

TSCA 12(b) - Chemical export notification

Not applicable.

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

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 (lbs)	SARA 302 TPQ (gallons)	SARA 304 RQ (lbs)	SARA 304 RQ (gallons)
furan	≤0.1	Yes.	500	64.1	100	12.8
propylene oxide	≤0.1	Yes.	10000	1444.3	100	14.4

SARA 304 RQ : 23830801.3 lbs / 10819183.8 kg [2507128.1 gal / 9490512.1 L]

SARA 311/312

Classification : ACUTE TOXICITY (inhalation) - Category 4
SKIN IRRITATION - Category 2
EYE IRRITATION - Category 2A
RESPIRATORY SENSITIZATION - Category 1
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

Composition/information on ingredients

Section 15. Regulatory information

Name	%	Classification
4,4'-methylenediphenyl diisocyanate	≥15 - ≤40	ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2B RESPIRATORY SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Isocyanic acid, polymethylenepolyphenylene ester	≥15 - ≤40	ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2B RESPIRATORY SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
Propane-1,2-diol, propoxylated	≥10 - ≤30	ACUTE TOXICITY (oral) - Category 4
o-(p-isocyanatobenzyl)phenyl isocyanate	≥10 - ≤30	ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2B RESPIRATORY SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2
γ-butyrolactone	≥1 - ≤5	ACUTE TOXICITY (oral) - Category 4 SERIOUS EYE DAMAGE - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3
2,2'-methylenediphenyl diisocyanate	≥0.1 - ≤1	ACUTE TOXICITY (inhalation) - Category 4 SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2B RESPIRATORY SENSITIZATION - Category 1 SKIN SENSITIZATION - Category 1 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2

SARA 313

	Product name	CAS number	%
Form R - Reporting requirements	4,4'-methylenediphenyl diisocyanate Isocyanic acid, polymethylenepolyphenylene ester	101-68-8 9016-87-9	≥15 - ≤40 ≥15 - ≤40
Supplier notification	4,4'-methylenediphenyl diisocyanate Isocyanic acid, polymethylenepolyphenylene ester	101-68-8 9016-87-9	≥15 - ≤40 ≥15 - ≤40

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: METHYLENE BISPHENYL ISOCYANATE

United States

Section 15. Regulatory information

New York : The following components are listed: Methylene diphenyl diisocyanate

New Jersey : The following components are listed: METHYLENE BISPHENYL ISOCYANATE; METHYLENE DIPHENYL DIISOCYANATE (POLYMERIC); DIISOCYANATES

Pennsylvania : The following components are listed: BENZENE, 1,1'-METHYLENEBIS [4-ISOCYANATO-

California Prop. 65

⚠ **WARNING**: This product can expose you to chemicals including Furan, Propylene oxide and acetaldehyde, which are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Ingredient name	No significant risk level	Maximum acceptable dosage level
Furan	-	-
Propylene oxide	-	-
acetaldehyde	Yes.	-

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Other information

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

Health	*	2
Flammability		0
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

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

Section 16. Other information

Procedure used to derive the classification

Classification	Justification
ACUTE TOXICITY (inhalation) - Category 4	Calculation method
SKIN IRRITATION - Category 2	Calculation method
EYE IRRITATION - Category 2A	Calculation method
RESPIRATORY SENSITIZATION - Category 1	Calculation method
SKIN SENSITIZATION - Category 1	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3	Calculation method
SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) - Category 2	Calculation method

History

Date of issue/Date of revision : 10/07/2025

Date of previous issue : No previous validation

Version : 1

Prepared by : Chemical Check GmbH

Key to abbreviations : ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
IMO = International Maritime Organization
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)
N/A = Not available
SGG = Segregation Group
TDG = Transportation of Dangerous Goods
UN = United Nations

References : HCS (U.S.A.) - Hazard Communication Standard
International transport regulations

Indicates information that has changed from previously issued version.

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