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# Safety Data Sheet

## H2OStop STI-03-0.03-9 (SealGuard II)

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Version: 9.0

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### 1. Identification

#### Product identifier used on the label

## H2OStop STI-03-0.03-9

#### Recommended use of the chemical and restriction on use

Recommended use\*: polyurethane component; industrial chemicals  
Suitable for use in industrial sector: Polymers industry; chemical industry  
Unsuitable for use: Uses other than recommended

\* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

#### Details of the supplier of the safety data sheet

Company:  
BASF CORPORATION  
100 Park Avenue  
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

#### Emergency telephone number

##### 24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300  
BASF HOTLINE: 1-800-832-HELP (4357)

#### Other means of identification

Chemical family: resin  
Synonyms: Urethane System Resin Component

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### 2. Hazards Identification

**According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200**

#### Classification of the product

Skin Irrit.	2	Skin irritation
Eye Dam.	1	Serious eye damage
Skin Sens.	1	Skin sensitization
Carc.	2	Carcinogenicity

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Repr.	2 (unborn child)	Reproductive toxicity
Repr.	1B (unborn child)	Reproductive toxicity
STOT RE	2 (oral)	Specific target organ toxicity — repeated exposure
Aquatic Acute	3	Hazardous to the aquatic environment - acute
Aquatic Chronic	3	Hazardous to the aquatic environment - chronic

### Label elements

Pictogram:



Signal Word:

Danger

Hazard Statement:

H318	Causes serious eye damage.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H351	Suspected of causing cancer.
H361	Suspected of damaging the unborn child.
H360	May damage the unborn child.
H373	May cause damage to organs (Pancreas) through prolonged or repeated exposure (oral).
H402	Harmful to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Precautionary Statements (Prevention):

P280	Wear protective gloves, protective clothing and eye protection or face protection.
P201	Obtain special instructions before use.
P260	Do not breathe dust/gas/mist/vapours.
P273	Avoid release to the environment.
P202	Do not handle until all safety precautions have been read and understood.
P272	Contaminated work clothing should not be allowed out of the workplace.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or physician.
P308 + P313	IF exposed or concerned: Get medical attention.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Storage):

P405	Store locked up.
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Precautionary Statements (Disposal):

P501	Dispose of contents/container in accordance with local regulations.
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**Hazards not otherwise classified**

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No specific dangers known, if the regulations/notes for storage and handling are considered.

### 3. Composition / Information on Ingredients

#### According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

dipropylene glycol

CAS Number: 25265-71-8  
Content (W/W):  $\geq 3.0$  -  $< 10.0\%$   
Synonym: Dipropylenglycol

Tetrahydroxypropylethylenediamine

CAS Number: 102-60-3  
Content (W/W):  $\geq 3.0$  -  $< 7.0\%$   
Synonym: 1,1',1'',1'''-(1,2-Ethanediyldinitrilo)tetrakis-2-propanol; Quadrol

tris(2-chloro-1-methylethyl)phosphate

CAS Number: 13674-84-5  
Content (W/W):  $\geq 1.0$  -  $< 3.0\%$   
Synonym: 1-Chloro-2-propanol phosphate (3:1); Tris (2-chloro-1-methylethyl)phosphate

Propanoic acid, 2-methyl-, 2,2-dimethyl-1-(1-methylethyl)-1,3- propanediyl ester

CAS Number: 6846-50-0  
Content (W/W):  $\geq 1.0$  -  $< 3.0\%$   
Synonym: 2-Methylpropanoic acid 2,2-dimethyl-1-(1-methylethyl)-1,3-propanediyl ester; 2,2,4-Trimethyl-1,3-pentanediol diisobutyrate

N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)

CAS Number: 3033-62-3  
Content (W/W):  $\geq 1.0$  -  $< 3.0\%$   
Synonym: 2,2'-Oxybis[N,N-dimethylethanamine]; Bis (dimethylaminoethyl) ether

triethylenediamine

CAS Number: 280-57-9  
Content (W/W):  $\geq 1.0$  -  $< 3.0\%$   
Synonym: 1,4-Diazabicyclo[2.2.2]octane; Triethylenediamine

diethylmethylbenzenediamine

CAS Number: 68479-98-1  
Content (W/W):  $\geq 0.1$  -  $< 3.0\%$   
Synonym: Diethyltoluylendiamin

N-Methylpyrrolidone

CAS Number: 872-50-4  
Content (W/W):  $\geq 0.1$  -  $< 1.0\%$   
Synonym: 1-Methyl 2-pyrrolidinone; N-Methylpyrrolidone

1,3-Benzenediamine, 4-methyl-2,6-bis(methylthio)-

CAS Number: 102093-68-5  
Content (W/W):  $\geq 0.1$  -  $< 1.0\%$   
Synonym: No data available.

1,3-Benzenediamine, 2-methyl-4,6-bis(methylthio)-

CAS Number: 104983-85-9

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Content (W/W):  $\geq 0.1 - < 1.0\%$   
Synonym: No data available.

### 4. First-Aid Measures

#### Description of first aid measures

##### General advice:

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

##### If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

##### If on skin:

Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist. If irritation develops, seek medical attention.

##### If in eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist. Remove contact lenses, if present. Immediate medical attention required.

##### If swallowed:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention. Do not induce vomiting. Immediate medical attention required.

#### Most important symptoms and effects, both acute and delayed

Symptoms: corneal injury, Skin contact may provoke the following symptoms:, skin irritation, allergic symptoms

*Information on: tris(2-chloro-1-methylethyl)phosphate*

*Symptoms: Overexposure may cause:, convulsions, depression, hypoxemia, tremors*

*Information on: triethylenediamine*

*Symptoms: Overexposure may cause:, corneal injury, skin corrosion, severe pain, coughing, respiratory disorders, dyspnea, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps*

*Information on: Tetrahydroxypropylethylenediamine*

*Symptoms: Overexposure may cause:, Eye irritation, skin irritation, erythema, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps*

*Information on: N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)*

*Symptoms: Overexposure may cause:, corneal injury, skin corrosion, severe pain, coughing, respiratory disorders, dyspnea, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps*

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Hazards: Symptoms can appear later.

#### Indication of any immediate medical attention and special treatment needed

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### Note to physician

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

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## 5. Fire-Fighting Measures

### Extinguishing media

Suitable extinguishing media:  
water spray, dry powder, carbon dioxide, foam

Unsuitable extinguishing media for safety reasons:  
water jet

### Special hazards arising from the substance or mixture

Hazards during fire-fighting:  
No particular hazards known.

### Advice for fire-fighters

Protective equipment for fire-fighting:  
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

### Further information:

Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

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## 6. Accidental release measures

### Further accidental release measures:

High risk of slipping due to leakage/spillage of product.

### Personal precautions, protective equipment and emergency procedures

Use personal protective clothing.

### Environmental precautions

Do not empty into drains. Do not discharge into the subsoil/soil.

### Methods and material for containment and cleaning up

Spills should be contained, solidified, and placed in suitable containers for disposal.

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## 7. Handling and Storage

### Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Avoid inhalation of mists/vapours. When using do not eat, drink or smoke. Wear suitable gloves and eye/face protection. Protect against moisture.

### Protection against fire and explosion:

No special precautions necessary.

### Conditions for safe storage, including any incompatibilities

Segregate from foods and animal feeds.

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Suitable materials for containers: Carbon steel (Iron), High density polyethylene (HDPE), Low density polyethylene (LDPE), Stainless steel 1.4301 (V2)

Further information on storage conditions: From this information no suitability of the materials mentioned above for the design of installations, including containers for permanent storage, can be inferred. Special conditions apply to the selection of materials in this regard, which we can communicate on request.

Containers should be stored tightly sealed in a dry place.

Storage stability:

Storage temperature: 16 - 27 °C

Protect against moisture.

The stated storage temperature is noted for health and safety in the workplace. With regard to Quality, please refer to the product specific Technical Bulletin.

### 8. Exposure Controls/Personal Protection

#### Components with occupational exposure limits

N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)	ACGIH, US:	Skin Designation ; The substance can be absorbed through the skin.
	ACGIH, US:	TWA value 0.05 ppm ;
	ACGIH, US:	STEL value 0.15 ppm ;
	ACGIH, US:	Skin Designation ; Danger of cutaneous absorption
	ACGIH, US:	Skin Designation ; Danger of cutaneous absorption

#### **Advice on system design:**

Provide local exhaust ventilation to control vapours/mists.

#### **Personal protective equipment**

##### **Respiratory protection:**

Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator as needed.

##### **Hand protection:**

Chemical resistant protective gloves, Protective glove selection must be based on the user's assessment of the workplace hazards.

##### **Eye protection:**

Wear face shield or tightly fitting safety goggles (chemical goggles) if splashing hazard exists.

##### **Body protection:**

Standard work clothes and shoes.

Body protection must be chosen based on level of activity and exposure.

##### **General safety and hygiene measures:**

Avoid contact with skin and eyes. Handle in accordance with good industrial hygiene and safety practice. Wear protective clothing as necessary to prevent contact. Avoid inhalation of vapours/mists.

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Wash soiled clothing immediately. Do not eat, drink or use tobacco while working. Wash thoroughly after handling.

### 9. Physical and Chemical Properties

Form:	liquid, viscous	
Odour:	slight odour, amine-like	
Odour threshold:	No applicable information available.	
Colour:	colourless to slightly yellow	
pH value:	$\geq 7$	
Freezing point:	-25.00 °C	
Melting point:	No data available.	
Boiling point:	> 200.00 °C	
Sublimation point:	No applicable information available.	
Flash point:	195.00 °C	(closed cup)
Flammability:	not flammable	(derived from flash point)
Lower explosion limit:	For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Autoignition:	> 250 °C	
Vapour pressure:	< 0.1 hPa ( 25 °C)	
Density:	1.0500 g/cm <sup>3</sup> ( 25.00 °C)	
Relative density:	No applicable information available.	
Vapour density:	No applicable information available.	
Partitioning coefficient n-octanol/water (log Pow):	not applicable	
Self-ignition temperature:	Based on its structural properties the product is not classified as self-igniting.	
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Viscosity, dynamic:	900.000 mPa.s ( 25.00 °C)	
Viscosity, kinematic:	not determined	
Solubility in water:	not soluble	
Solubility (quantitative):	No applicable information available.	
Solubility (qualitative):	No applicable information available.	
Molar mass:	No data available.	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.	

### 10. Stability and Reactivity

#### Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

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Corrosion to metals:  
No corrosive effect on metal.

Oxidizing properties:  
Not an oxidizer.

### Chemical stability

The product is chemically stable.

### Possibility of hazardous reactions

No hazardous reactions if stored and handled as prescribed/indicated.

### Conditions to avoid

Temperature: < 0 degrees Celsius

### Incompatible materials

acids, oxidizing agents, isocyanates

### Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: carbon monoxide, carbon dioxide, nitrogen oxide, hydrogen cyanide

Thermal decomposition:

No decomposition if stored and handled as prescribed/indicated.

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## 11. Toxicological information

### Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

### Acute Toxicity/Effects

#### Acute toxicity

Assessment of acute toxicity: No known acute effects.

#### Oral

No applicable information available.

#### Inhalation

No applicable information available.

#### Dermal

No applicable information available.

#### Assessment other acute effects

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure.



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Origin of data: expert judgement

### Irritation / corrosion

Assessment of irritating effects: Skin contact causes irritation. May cause severe damage to the eyes.

#### *Information on: triethylenediamine*

*Assessment of irritating effects: Skin contact causes irritation. May cause severe damage to the eyes.*

#### *Information on: Tetrahydroxypropylethylenediamine*

*Assessment of irritating effects: Not irritating to the skin. Eye contact causes irritation.*

#### *Information on: N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)*

*Assessment of irritating effects: Corrosive! Damages skin and eyes.*

#### *Information on: diethylmethylbenzenediamine*

*Assessment of irritating effects: Eye contact causes irritation. Not irritating to the skin. The European Union (EU) has classified the substance as "irritating" to eyes.*

### Sensitization

Assessment of sensitization: Sensitization after skin contact possible.

### Aspiration Hazard

No aspiration hazard expected.

## **Chronic Toxicity/Effects**

### Repeated dose toxicity

Assessment of repeated dose toxicity: Repeated exposure may affect certain organs.

#### *Information on: diethylmethylbenzenediamine*

*Assessment of repeated dose toxicity: EU-classification Repeated oral exposure may affect certain organs.*

### Genetic toxicity

Assessment of mutagenicity: The chemical structure does not suggest a specific alert for such an effect. No applicable information available.

### Carcinogenicity

Assessment of carcinogenicity: Indication of possible carcinogenic effect in animal tests.

#### *Information on: tris(2-chloro-1-methylethyl)phosphate*

*Assessment of carcinogenicity: Indication of possible carcinogenic effect in animal tests.*

### Reproductive toxicity

Assessment of reproduction toxicity: The chemical structure does not suggest a specific alert for such an effect. No applicable information available.

### Teratogenicity

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Assessment of teratogenicity: The substance caused malformations/developmental toxicity in laboratory animals. Indications of possible developmental toxicity/teratogenicity were seen in animal studies.

*Information on: N-Methylpyrrolidone*

*Assessment of teratogenicity: After the uptake of small doses toxicity to development will not be expected in humans. Effects observed at maternally toxic doses.*

*Information on: Propanoic acid, 2-methyl-, 2,2-dimethyl-1-(1-methylethyl)-1,3- propanediyl ester*

*Assessment of teratogenicity: Indications of possible developmental toxicity/teratogenicity were seen in animal studies.*

### Other Information

The product has not been tested. The statement has been derived from the properties of the individual components.

### Medical conditions aggravated by overexposure

Individuals with allergic history or pre-existing dermatitis should use extra precautions when handling this product. The substance may cause sensitization of the skin in particularly sensitive individuals.

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## 12. Ecological Information

### Toxicity

#### Aquatic toxicity

Assessment of aquatic toxicity:

Acutely harmful for aquatic organisms. Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product has not been tested. The statement has been derived from the properties of the individual components.

#### Toxicity to fish

*Information on: diethylmethylbenzenediamine*

*LC50 (96 h) 194 mg/l, Leuciscus idus (DIN 38412 Part 15, static)*

*Information on: tris(2-chloro-1-methylethyl)phosphate*

*LC50 (96 h) 51 mg/l, Pimephales promelas (OECD Guideline 203, static)*

*The statement of the toxic effect relates to the analytically determined concentration.*

*Information on: N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)*

*LC50 (96 h) approx. 131.2 mg/l, Brachydanio rerio (OECD Guideline 203, semistatic)*

*The details of the toxic effect relate to the nominal concentration.*

#### Aquatic invertebrates

*Information on: diethylmethylbenzenediamine*

*EC50 (48 h) 0.5 mg/l, Daphnia magna (Daphnia test acute)*

*Information on: tris(2-chloro-1-methylethyl)phosphate*

*EC50 (48 h) 131 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)*

*The statement of the toxic effect relates to the analytically determined concentration.*

*Information on: N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)*

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*EC50 (48 h) 102 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)  
The statement of the toxic effect relates to the analytically determined concentration.*

### Aquatic plants

*Information on: diethylmethylbenzenediamine  
EC50 (72 h) 104 mg/l (growth rate), Desmodosmus subspicatus (OECD Guideline 201, static)*

*Information on: tris(2-chloro-1-methylethyl)phosphate  
EC50 (72 h) 82 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)  
Nominal concentration.  
No observed effect concentration (72 h) 42 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)  
Nominal concentration.*

*Information on: N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)  
EC50 (72 h) 24 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)  
The statement of the toxic effect relates to the analytically determined concentration.  
EC10 (72 h) 5 mg/l (growth rate), Pseudokirchneriella subcapitata (OECD Guideline 201, static)  
The statement of the toxic effect relates to the analytically determined concentration.  
EC50 (72 h) 23 mg/l (growth rate), Selenastrum capricornutum (OECD Guideline 201, static)  
The details of the toxic effect relate to the nominal concentration.  
EC10 (72 h) 5.3 mg/l (growth rate), Selenastrum capricornutum (OECD Guideline 201, static)  
The details of the toxic effect relate to the nominal concentration.*

### Chronic toxicity to aquatic invertebrates

*Information on: tris(2-chloro-1-methylethyl)phosphate  
No observed effect concentration (21 d) 32 mg/l, Daphnia magna (OECD Guideline 202, part 2, semistatic)  
Nominal concentration.*

## **Microorganisms/Effect on activated sludge**

### Toxicity to microorganisms

*Information on: diethylmethylbenzenediamine  
Bringmann-Kuehn Test static  
bacterium/EC10 (24 h): 170 mg/l*

*Information on: tris(2-chloro-1-methylethyl)phosphate  
DIN EN ISO 8192 aquatic  
activated sludge/EC50 (3 h): 784 mg/l  
Nominal concentration.*

*Information on: N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)  
OECD Guideline 209 activated sludge, industrial/EC20 (30 min): > 720 mg/l  
Nominal concentration.*

## **Persistence and degradability**

### Assessment biodegradation and elimination (H2O)

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Poorly biodegradable.

### Elimination information

Poorly biodegradable.

### **Bioaccumulative potential**

#### Assessment bioaccumulation potential

Does not significantly accumulate in organisms.

### **Mobility in soil**

#### Assessment transport between environmental compartments

Adsorption to solid soil phase is not expected.

### **Additional information**

Adsorbable organically-bound halogen(AOX):  
This product contains no organically-bound halogen.

Other ecotoxicological advice:

Do not allow to enter soil, waterways or waste water channels. Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

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## 13. Disposal considerations

### **Waste disposal of substance:**

Incinerate or dispose of in a licensed facility. Do not discharge substance/product into sewer system.

### **Container disposal:**

Do not reuse empty containers. Under no circumstances should empty drums be burned or cut open with gas or electric torch as toxic decomposition products may be liberated. Steel drums must be emptied and can be sent to a licensed drum reconditioner for reuse, a scrap metal dealer or an approved landfill. Do not attempt to refill or clean containers since residue is difficult to remove.

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## 14. Transport Information

### **Land transport**

USDOT

Not classified as a dangerous good under transport regulations

### **Sea transport**

IMDG

Not classified as a dangerous good under transport regulations

### **Air transport**

IATA/ICAO

Not classified as a dangerous good under transport regulations

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### 15. Regulatory Information

#### Federal Regulations

##### Registration status:

Chemical TSCA, US released / listed

**EPCRA 311/312 (Hazard categories):** Refer to SDS section 2 for GHS hazard classes applicable for this product.

#### State regulations

##### State RTK

<u>State RTK</u>	<u>CAS Number</u>	<u>Chemical name</u>
PA	25265-71-8	dipropylene glycol
NJ	3033-62-3	N,N,N',N'-tetramethyl-2,2'-oxybis(ethylamine)
	872-50-4	N-Methylpyrrolidone

#### **Safe Drinking Water & Toxic Enforcement Act, CA Prop. 65:**

**WARNING:** This product can expose you to chemicals including LEAD, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information, go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

#### **NFPA Hazard codes:**

Health: 3 Fire: 1 Reactivity: 1 Special:

#### **HMIS III rating**

Health: 3<sup>+</sup> Flammability: 1 Physical hazard: 1

### 16. Other Information

#### **SDS Prepared by:**

BASF NA Product Regulations  
SDS Prepared on: 2024/06/20

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING

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END OF DATA SHEET

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### 1. Identification

#### Product identifier used on the label

## H2OSTOP STI-03-0.03A ISO

#### Recommended use of the chemical and restriction on use

Recommended use\*: polyurethane component; industrial chemicals  
Suitable for use in industrial sector: Polymers industry; chemical industry  
Unsuitable for use: Uses other than recommended

\* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

#### Details of the supplier of the safety data sheet

Company:  
BASF CORPORATION  
100 Park Avenue  
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

#### Emergency telephone number

#### 24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300  
BASF HOTLINE: 1-800-832-HELP (4357)

#### Other means of identification

Chemical family: aromatic isocyanates  
Synonyms: POLYMETHYLENE POLYPHENYLISOCYANATE  
PMDI  
POLYMERIC MDI  
AROMATIC ISOCYANATE

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### 2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

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Acute Tox.	4 (Inhalation - mist)	Acute toxicity
Skin Irrit.	2	Skin irritation
Eye Irrit.	2B	Eye irritation
Resp. Sens.	1	Respiratory sensitization
Skin Sens.	1B	Skin sensitization
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure
STOT RE	2 (by inhalation)	Specific target organ toxicity — repeated exposure

### Label elements

Pictogram:



Signal Word:

Danger

Hazard Statement:

H320	Causes eye irritation.
H315	Causes skin irritation.
H332	Harmful if inhaled.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
H335	May cause respiratory irritation.
H373	May cause damage to organs (Olfactory organs) through prolonged or repeated exposure (inhalation).

Precautionary Statements (Prevention):

P280	Wear protective gloves.
P271	Use only outdoors or in a well-ventilated area.
P260	Do not breathe mist or vapour or spray.
P284	In case of inadequate ventilation wear respiratory protection.
P272	Contaminated work clothing should not be allowed out of the workplace.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P312	Call a POISON CENTER or physician if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P314	Get medical advice/attention if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P333 + P313	If skin irritation or rash occurs: Get medical attention.
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P337 + P313	If eye irritation persists: Get medical attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.

Precautionary Statements (Storage):



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

Precautionary Statements (Disposal):  
P501 Dispose of contents/container in accordance with local regulations.

### Hazards not otherwise classified

#### Labeling of special preparations (GHS):

CONTAINS ISOCYANATES. INHALATION OF ISOCYANATE MISTS OR VAPORS MAY CAUSE RESPIRATORY IRRITATION, BREATHLESSNESS, CHEST DISCOMFORT AND REDUCED PULMONARY FUNCTION. OVEREXPOSURE WELL ABOVE THE PEL MAY RESULT IN BRONCHITIS, BRONCHIAL SPASMS AND PULMONARY EDEMA. LONG-TERM EXPOSURE TO ISOCYANATES HAS BEEN REPORTED TO CAUSE LUNG DAMAGE, INCLUDING REDUCED LUNG FUNCTION WHICH MAY BE PERMANENT. ACUTE OR CHRONIC OVEREXPOSURE TO ISOCYANATES MAY CAUSE SENSITIZATION IN SOME INDIVIDUALS, RESULTING IN ALLERGIC RESPIRATORY REACTIONS INCLUDING WHEEZING, SHORTNESS OF BREATH AND DIFFICULTY BREATHING. ANIMAL TESTS INDICATE THAT SKIN CONTACT MAY PLAY A ROLE IN CAUSING RESPIRATORY SENSITIZATION.

## 3. Composition / Information on Ingredients

### According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

#### P-MDI

CAS Number: 9016-87-9  
Content (W/W):  $\geq 50.0$  -  $< 75.0\%$   
Synonym: Isocyanic acid polymethylenepolyphenylene ester; Polymethylene polyphenylene isocyanate

#### Diphenylmethane-4,4'-diisocyanate (MDI)

CAS Number: 101-68-8  
Content (W/W):  $\geq 25.0$  -  $< 50.0\%$   
Synonym: Diphenylmethandiisocyanat

#### Methylenediphenyl diisocyanate

CAS Number: 26447-40-5  
Content (W/W):  $\geq 3.0$  -  $< 7.0\%$   
Synonym: 1,1'-Methylenebis[isocyanatobenzene]; Methylenediphenyl diisocyanate

#### 1,3-Diazetidone-2,4-dione, 1,3-bis[4-[(4-isocyanatophenyl)methyl]phenyl]-

CAS Number: 17589-24-1  
Content (W/W):  $\geq 1.0$  -  $< 3.0\%$   
Synonym: 1,3-Diazetidone-2,4-dione, 1,3-bis[4-[(4-isocyanatophenyl)methyl]phenyl]-

#### Isocyanic acid, polymethylenepolyphenylene ester, polymer with.alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl)

CAS Number: 57636-09-6  
Content (W/W):  $\geq 1.0$  -  $< 3.0\%$   
Synonym: Isocyanic acid, polymethylenepolyphenylene ester, polymer with.alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl)

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### 4. First-Aid Measures

#### Description of first aid measures

##### General advice:

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

##### If inhaled:

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.

##### If on skin:

Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

##### If in eyes:

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Remove contact lenses, if present. Immediate medical attention required.

##### If swallowed:

Rinse mouth and then drink 200-300 ml of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

#### Most important symptoms and effects, both acute and delayed

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11., Eye irritation, skin irritation, allergic symptoms

*Information on: Diphenylmethane-4,4'-diisocyanate (MDI)*

*Symptoms: Overexposure may cause:, Eye irritation, skin irritation, erythema, chest discomfort, dyspnea, asthma, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps, Inhalation may provoke the following symptoms:, irritation of respiratory tract, coughing, wheezing*

*Information on: Methylenediphenyl diisocyanate*

*Symptoms: Overexposure may cause:, Eye irritation, skin irritation, erythema, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps, Inhalation may provoke the following symptoms:, irritation of respiratory tract, coughing*

*Information on: 1,3-Diazetidine-2,4-dione, 1,3-bis[4-[(4- isocyanatophenyl)methyl]phenyl]-*

*Symptoms: Overexposure may cause:, Eye irritation, skin irritation, erythema, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps*

-----  
Hazards: Symptoms can appear later.

*Information on: Diphenylmethane-4,4'-diisocyanate (MDI)*

*Hazards: Respiratory sensitization may result in allergic (asthma-like) signs in the lower respiratory tract including wheezing, shortness of breath and difficulty breathing, the onset of which may be delayed. Repeated inhalation of high concentrations may cause lung damage, including reduced lung function, which may be permanent. Substances eliciting lower respiratory tract irritation may worsen the asthma-like reactions that may be produced by product exposures.*

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### Indication of any immediate medical attention and special treatment needed

#### Note to physician

Antidote: Specific antidotes or neutralizers to isocyanates do not exist.  
Treatment: Treatment should be supportive and based on the judgement of the physician in response to the reaction of the patient.

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## 5. Fire-Fighting Measures

### Extinguishing media

Suitable extinguishing media:  
water spray, dry powder, carbon dioxide, foam

Unsuitable extinguishing media for safety reasons:  
water jet

### Special hazards arising from the substance or mixture

Hazards during fire-fighting:  
nitrous gases, fumes/smoke, isocyanate, vapour

### Advice for fire-fighters

Protective equipment for fire-fighting:  
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

### Further information:

Keep containers cool by spraying with water if exposed to fire. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

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## 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

Clear area. Ensure adequate ventilation. Wear suitable personal protective clothing and equipment.

### Environmental precautions

Do not discharge into drains/surface waters/groundwater.

### Methods and material for containment and cleaning up

For small amounts: Absorb isocyanate with suitable absorbent material (see § 40 CFR, sections 260, 264 and 265 for further information). Shovel into open container. Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90 % water, 5-8 % household ammonia, 2-5 % detergent. Allow solution to stand for at least 10 minutes. Pick up with suitable absorbent material. Place into appropriately labeled waste containers. Do not make container pressure tight. Move container to a well-ventilated area (outside). Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide. Dispose of absorbed material in accordance with regulations.

For large amounts: For spills, stop leaks and provide diking to contain the material. Prevent entry into sewage systems, ground and surface waters. If temporary control of isocyanate vapor is required, a blanket of protein foam or other suitable foam (available from most fire departments) may be placed

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over the spill. Transfer as much liquid as possible via pump or vacuum device into closed but not sealed containers for disposal.

For residues: The following measures should be taken for final cleanup: Spill area can be decontaminated with the following recommended decontamination solution: Mixture of 90 % water, 5-8 % household ammonia, 2-5 % detergent. Wash down spill area with decontamination solution. Allow solution to stand for at least 10 minutes. Pick up with suitable absorbent material. Place into appropriately labeled waste containers. Do not make container pressure tight. Move container to a well-ventilated area (outside). Allow to stand for at least 48 hours to allow escape of evolved carbon dioxide. Dispose of absorbed material in accordance with regulations.

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## 7. Handling and Storage

### Precautions for safe handling

Provide suitable exhaust ventilation at the processing machines. Ensure thorough ventilation of stores and work areas. Avoid aerosol formation. Avoid inhalation of dusts/mists/vapours. When handling heated product, vapours of the product should be ventilated, and respiratory protection used. Wear respiratory protection when spraying. Use suitable chemically resistant gloves. Danger of bursting when sealed gastight. Protect against moisture. If bulging of drum occurs, transfer to well ventilated area, puncture to relieve pressure, open vent and let stand for 48 hours before resealing.

Protection against fire and explosion:

No special precautions necessary.

### Conditions for safe storage, including any incompatibilities

Keep away from water. Segregate from foods and animal feeds. Segregate from acids and bases.

Suitable materials for containers: Carbon steel (Iron), High density polyethylene (HDPE), Low density polyethylene (LDPE), Stainless steel 1.4301 (V2), Stove-lacquer KNS L-5X

Further information on storage conditions: Formation of CO<sub>2</sub> and build up of pressure possible. Keep container tightly closed and in a well-ventilated place. Outage of containers should be filled with dry inert gas at atmospheric pressure to avoid reaction with moisture.

Storage stability:

Storage temperature: 3 - 35 °C

The stated upper storage temperature is noted for health and safety in the workplace. The storage temperature will affect the handling characteristics and quality of the product. Recommended storage temperatures for specific products from BASF are reported in our Technical Bulletins.

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## 8. Exposure Controls/Personal Protection

### Components with occupational exposure limits

Diphenylmethane-4,4'-diisocyanate (MDI)	ACGIH, US:	TWA value 0.005 ppm ;
	OSHA Z1:	CLV 0.02 ppm 0.2 mg/m <sup>3</sup> ;

**Advice on system design:**

Provide local exhaust ventilation to maintain recommended P.E.L.

### Personal protective equipment

**Respiratory protection:**

When workers are facing concentrations above the occupational exposure limits they must use appropriate certified respirators. When atmospheric levels may exceed the occupational exposure

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limit (PEL or TLV) NIOSH-certified air-purifying respirators equipped with an organic vapor sorbent and particulate filter can be used as long as appropriate precautions and change out schedules are in place. For emergency or non-routine, high exposure situations, including confined space entry, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

### Hand protection:

Chemical resistant protective gloves should be worn to prevent all skin contact., Suitable materials may include, chloroprene rubber (Neoprene), nitrile rubber (Buna N), chlorinated polyethylene, polyvinylchloride (Pylox), butyl rubber, depending upon conditions of use.

### Eye protection:

Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

### Body protection:

Cover as much of the exposed skin as possible to prevent all skin contact., Suitable materials may include, saran-coated material, depending upon conditions of use.

### General safety and hygiene measures:

Wear protective clothing as necessary to prevent contact. Eye wash fountains and safety showers must be easily accessible. Observe the appropriate PEL or TLV value. Wash soiled clothing immediately. Remove contaminated clothing immediately and clean before re-use or dispose if necessary.

## 9. Physical and Chemical Properties

Form:	liquid
Odour:	faint odour, aromatic
Odour threshold:	not applicable
Colour:	dark amber
pH value:	not applicable
Freezing point:	3.0 °C
Melting point:	3.0 °C
Boiling point:	200 °C ( 5 mmHg)
Sublimation point:	No applicable information available.
Flash point:	220 °C
Flammability:	not flammable
Lower explosion limit:	For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.
Upper explosion limit:	For liquids not relevant for classification and labelling.
Autoignition:	> 250 °C
Vapour pressure:	0.00001 mmHg ( 20 °C)
Density:	1.220 - 1.25 g/cm <sup>3</sup> ( 20 °C)
Relative density:	1.22 ( 20 °C)
Bulk density:	10.17 lb/USg ( 25 °C)

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Vapour density:	not applicable
Partitioning coefficient n-octanol/water (log Pow):	not applicable
Self-ignition temperature:	Based on its structural properties the product is not classified as self-igniting.
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.
Viscosity, dynamic:	200 mPa.s ( 20 °C)
Viscosity, kinematic:	No applicable information available.
Solubility in water:	Reacts with water.
Solubility (quantitative):	No applicable information available.
Solubility (qualitative):	No applicable information available.
Molar mass:	360 g/mol
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.
Other Information:	If necessary, information on other physical and chemical parameters is indicated in this section.

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## 10. Stability and Reactivity

### Reactivity

Corrosion to metals:  
No corrosive effect on metal.

Oxidizing properties:  
Not an oxidizer.

### Chemical stability

The product is stable if stored and handled as prescribed/indicated.

### Possibility of hazardous reactions

Reacts with water, with formation of carbon dioxide. Risk of bursting. Reacts with alcohols. Reacts with acids. Reacts with alkalies. Reacts with amines. Risk of exothermic reaction. Risk of polymerization. Contact with certain rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength.

### Conditions to avoid

Avoid moisture.

### Incompatible materials

acids, amines, alcohols, water, Alkalines, strong bases, Substances/products that react with isocyanates.

### Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: carbon monoxide, carbon dioxide, hydrogen cyanide, nitrogen oxides, aromatic isocyanates, gases/vapours

Thermal decomposition:

No decomposition if stored and handled as prescribed/indicated.

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### 11. Toxicological information

#### Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

#### Acute Toxicity/Effects

##### Acute toxicity

Assessment of acute toxicity: Of moderate toxicity after short-term inhalation. Inhalation of vapours may cause irritation of the mucous membranes of the nose, throat or trachea, breathlessness, chest discomfort, difficult breathing and reduced pulmonary function. Inhalation exposure well above the PEL may result additionally in eye irritation, headache, chemical bronchitis, asthma-like findings or pulmonary edema. Isocyanates have also been reported to cause hypersensitivity pneumonitis, which is characterized by flu-like symptoms, the onset of which may be delayed.

##### Oral

*Information on: Diphenylmethane-4,4'-diisocyanate (MDI)*

*Type of value: LD50*

*Species: rat (male/female)*

*Value: > 2,000 mg/kg (Directive 84/449/EEC, B.1)*

##### Inhalation

Type of value: ATE

Species: rat

Value: 1.96 mg/l (OECD Guideline 403)

Exposure time: 4 h

An aerosol was tested.

Type of value: LC50

Species: rat

Value: > 2.24 mg/l (OECD Guideline 403)

Exposure time: 1 h

An aerosol was tested.

##### Dermal

*Information on: Diphenylmethane-4,4'-diisocyanate (MDI)*

*Type of value: LD50*

*Species: rabbit (male/female)*

*Value: > 9,400 mg/kg*

##### Assessment other acute effects

Assessment of STOT single:

Causes temporary irritation of the respiratory tract.

##### Irritation / corrosion

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Assessment of irritating effects: Irritating to eyes, respiratory system and skin. Skin contact may result in dermatitis, either irritative or allergic. Overexposure to the eyes may cause irritation, redness, scratching of the cornea, and tearing. Repeated or prolonged skin contact can cause drying and cracking of the skin.

### Skin

*Information on: Diphenylmethane-4,4'-diisocyanate (MDI)*

*Species: rabbit*

*Result: Irritant.*

*Method: OECD Guideline 404*

### Eye

*Information on: Diphenylmethane-4,4'-diisocyanate (MDI)*

*Species: rabbit*

*Result: non-irritant*

*Method: OECD Guideline 405*

### Sensitization

Assessment of sensitization: Sensitization after skin contact possible. The substance may cause sensitization of the respiratory tract. As a result of previous repeated overexposures or a single large dose, certain individuals will develop isocyanate sensitization (chemical asthma) which will cause them to react to a later exposure to isocyanate at levels well below the PEL/TLV. These symptoms, which include chest tightness, wheezing, cough, shortness of breath, or asthmatic attack, could be immediate or delayed up to several hours after exposure. Similar to many non-specific asthmatic responses, there are reports that once sensitized an individual can experience these symptoms upon exposure to dust, cold air, or other irritants. This increased lung sensitivity can persist for weeks and in severe cases for several years. Chronic overexposure to isocyanates has also been reported to cause lung damage, including a decrease in lung function, which may be permanent. Prolonged contact can cause reddening, swelling, rash, scaling, or blistering. In those who have developed a skin sensitization, these symptoms can develop as a result of contact with very small amounts of liquid material, or even as a result of vapour-only exposure. Animal tests indicate that skin contact may play a role in causing respiratory sensitization.

*Information on: Diphenylmethane-4,4'-diisocyanate (MDI)*

*Buehler test*

*Species: guinea pig*

*Result: sensitizing*

*Mouse Local Lymph Node Assay (LLNA)*

*Species: mouse*

*Result: sensitizing*

*other*

*Species: guinea pig*

*Result: sensitizing*

*Studies in animals suggest that dermal exposure may lead to pulmonary sensitization. However, the relevance of this result for humans is unclear.*

### Aspiration Hazard

No aspiration hazard expected.



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### Chronic Toxicity/Effects

#### Repeated dose toxicity

Assessment of repeated dose toxicity: The substance may cause damage to the olfactory epithelium after repeated inhalation. The substance may cause damage to the lung after repeated inhalation. These effects are not relevant to humans at occupational levels of exposure.

*Information on: Diphenylmethane-4,4'-diisocyanate (MDI)*

*Experimental/calculated data: similar to OECD guideline 453 rat (Wistar) (male/female) Inhalation 2 yrs, 6 hr/day 0, 0.2, 1, 6 mg/m<sup>3</sup>, olfactory epithelium*

*NOAEL: 0.2 mg/m<sup>3</sup>*

*LOAEL: 1 mg/m<sup>3</sup>*

*The substance may cause damage to the olfactory epithelium after repeated inhalation. These effects are not relevant to humans at occupational levels of exposure. Repeated inhalative uptake of the substance did not cause damage to the reproductive organs.*

-----

#### Genetic toxicity

Assessment of mutagenicity: The substance was mutagenic in various bacterial test systems; however, these results could not be confirmed in tests with mammals.

*Information on: Diphenylmethane-4,4'-diisocyanate (MDI)*

*Genetic toxicity in vitro: OECD Guideline 471 Ames-test Salmonella typhimurium: with and without metabolic activation ambiguous*

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*Information on: Diphenylmethane-4,4'-diisocyanate (MDI)*

*Genetic toxicity in vivo: OECD Guideline 474 Micronucleus assay rat (male) Inhalation negative No clastogenic effect reported.*

-----

#### Carcinogenicity

Assessment of carcinogenicity: A carcinogenic potential cannot be excluded after prolonged exposure to severely irritating concentrations. These effects are not relevant to humans at occupational levels of exposure. IARC Group 3 (not classifiable as to human carcinogenicity).

*Information on: Diphenylmethane-4,4'-diisocyanate (MDI)*

*Assessment of carcinogenicity: A carcinogenic potential cannot be excluded after prolonged exposure to severely irritating concentrations. These effects are not relevant to humans at occupational levels of exposure. IARC Group 3 (not classifiable as to human carcinogenicity).*

*Information on: P-MDI*

*Assessment of carcinogenicity: A carcinogenic potential cannot be excluded after prolonged exposure to severely irritating concentrations. These effects are not relevant to humans at occupational levels of exposure. IARC Group 3 (not classifiable as to human carcinogenicity).*

*Information on: Methylenediphenyl diisocyanate*

*Assessment of carcinogenicity: A carcinogenic potential cannot be excluded after prolonged exposure to severely irritating concentrations. These effects are not relevant to humans at occupational levels of exposure. IARC Group 3 (not classifiable as to human carcinogenicity).*

*Information on: 1,3-Diazetidine-2,4-dione, 1,3-bis[4-[(4-isocyanatophenyl)methyl]phenyl]-*

*Assessment of carcinogenicity: Indication of possible carcinogenic effect in animal tests. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.*

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*Information on: Isocyanic acid, polymethylenepolyphenylene ester, polymer with.alpha.-hydro-.omega.-hydroxypoly(oxy-1,2-ethanediyl)*

*Assessment of carcinogenicity: A carcinogenic potential cannot be excluded after prolonged exposure to severely irritating concentrations. These effects are not relevant to humans at occupational levels of exposure. IARC Group 3 (not classifiable as to human carcinogenicity).*

*A carcinogenic potential cannot be excluded after prolonged exposure to severely irritating concentrations. These effects are not relevant to humans at occupational levels of exposure. IARC Group 3 (not classifiable as to human carcinogenicity).*

-----

Experimental/calculated data: OECD Guideline 453 rat Inhalation 0, 0.2, 1, 6 mg/m<sup>3</sup>  
Result: Lung tumors

### Reproductive toxicity

Assessment of reproduction toxicity: Repeated inhalative uptake of the substance did not cause damage to the reproductive organs.

### Teratogenicity

Assessment of teratogenicity: The substance did not cause malformations in animal studies; however, toxicity to development was observed at high doses that were toxic to the parental animals.

### Development

OECD Guideline 414 rat Inhalation 0, 1, 4, 12 mg/m<sup>3</sup>

NOAEL Mat.: 4 mg/m<sup>3</sup>

NOAEL Teratog.: 4 mg/m<sup>3</sup>

The substance did not cause malformations in animal studies; however, toxicity to development was observed at high doses that were toxic to the parental animals.

### Other Information

The product has not been tested. The statement has been derived from the properties of the individual components.

### Medical conditions aggravated by overexposure

The isocyanate component is a respiratory sensitizer. It may cause allergic reaction leading to asthma-like spasms of the bronchial tubes and difficulty in breathing. Medical supervision of all employees who handle or come into contact with isocyanates is recommended. Contact may aggravate pulmonary disorders. Persons with history of respiratory disease or hypersensitivity should not be exposed to this product. Preemployment and periodic medical examinations with respiratory function tests (FEV, FVC as a minimum) are suggested. Persons with asthmatic conditions, chronic bronchitis, other chronic respiratory diseases, recurrent eczema or pulmonary sensitization should be excluded from working with isocyanates. Once a person is diagnosed as having pulmonary sensitization (allergic asthma) to isocyanates, further exposure is not recommended.

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## 12. Ecological Information

### **Toxicity**

#### Aquatic toxicity

Assessment of aquatic toxicity:

There is a high probability that the product is not acutely harmful to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. Based on long-term (chronic) toxicity study data, the product is very likely not harmful to aquatic organisms.

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The product may hydrolyse. The test result maybe partially due to degradation products. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

### Toxicity to fish

LC0 (96 h) > 1,000 mg/l, Brachydanio rerio (OECD Guideline 203, static)

### Aquatic invertebrates

EC50 (24 h) > 1,000 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

### Aquatic plants

EC0 (72 h) 1,640 mg/l (growth rate), Scenedesmus subspicatus (OECD Guideline 201, static)

## **Microorganisms/Effect on activated sludge**

### Toxicity to microorganisms

OECD Guideline 209 aquatic

aerobic bacteria from a domestic water treatment plant/EC50 (3 h): > 100 mg/l

## **Persistence and degradability**

### Assessment biodegradation and elimination (H<sub>2</sub>O)

Poorly biodegradable. The product is unstable in water. The elimination data also refer to products of hydrolysis.

### Elimination information

0 % BOD of the ThOD (28 d) (OECD Guideline 302 C) (aerobic, activated sludge) Poorly biodegradable.

### Assessment of stability in water

In contact with water the substance will hydrolyse slowly.

### Information on Stability in Water (Hydrolysis)

t<sub>1/2</sub> 20 h (25 °C)

## **Bioaccumulative potential**

### Assessment bioaccumulation potential

Significant accumulation in organisms is not to be expected.

### Bioaccumulation potential

Bioconcentration factor: 200 (28 d), Cyprinus carpio (OECD Guideline 305 E)

## **Mobility in soil**

### Assessment transport between environmental compartments

The substance will not evaporate into the atmosphere from the water surface.

Adsorption to solid soil phase is not expected.

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## **13. Disposal considerations**

### **Waste disposal of substance:**

Incinerate or dispose of in a licensed facility. Do not discharge substance/product into sewer system.

# Safety Data Sheet

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### Container disposal:

Steel drums must be emptied and can be sent to a licensed drum reconditioner for reuse, a scrap metal dealer or an approved landfill. Do not attempt to refill or clean containers since residue is difficult to remove. Under no circumstances should empty drums be burned or cut open with gas or electric torch as toxic decomposition products may be liberated. Do not reuse empty containers.

## 14. Transport Information

### Land transport

USDOT

Not classified as a dangerous good under transport regulations

### Sea transport

IMDG

Not classified as a dangerous good under transport regulations

### Air transport

IATA/ICAO

Not classified as a dangerous good under transport regulations

### Further information

DOT: This product is regulated if the amount in a single receptacle exceeds the Reportable Quantity (RQ). Please refer to Section 15 of this SDS for the RQ for this product.

Product transported in single container exceeding the Reportable Quantity has to be assigned to RQ, NA3082, OTHER REGULATED SUBSTANCES, Liquid, N.O.S. (MDI), Class 9, Packing Group III.

## 15. Regulatory Information

### Federal Regulations

#### Registration status:

Chemical TSCA, US released / listed

**EPCRA 311/312 (Hazard categories):** Refer to SDS section 2 for GHS hazard classes applicable for this product.

#### EPCRA 313:

##### CAS Number

101-68-8

9016-87-9

Chemical name

Diphenylmethane-4,4'-diisocyanate (MDI)

P-MDI

##### CERCLA RQ

5000 LBS

##### CAS Number

101-68-8

##### Chemical name

Diphenylmethane-4,4'-diisocyanate (MDI)

### State regulations

#### State RTK

NJ

PA

#### CAS Number

101-68-8

101-68-8

#### Chemical name

Diphenylmethane-4,4'-diisocyanate (MDI)

Diphenylmethane-4,4'-diisocyanate (MDI)

### NFPA Hazard codes:

Health: 2

Fire: 1

Reactivity: 1

Special:

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### HMIS III rating

Health: 2 $\alpha$  Flammability: 1 Physical hazard: 1

## 16. Other Information

### SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2023/03/03

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END OF DATA SHEET