

## Safety Data Sheet

### RESFOAM HB 45

Safety Data Sheet dated: 12/14/2023 - version 1

Date of first edition: 12/14/2023



## 1. Identification

### Product identifier

Mixture identification:

Trade name: RESFOAM HB 45

Trade code: 9024453

### Recommended use and restrictions on use

Recommended use: Polyurethanic coating

Restrictions on use: Not available

### Supplier's details

Company: MAPEI INC. (Canada)

2900 Francis-Hughes Avenue

H7L 3J5 - Laval - QC - CAN

Phone: 1-450-662-1212

Responsible: RDProductSafety@mapei.com

### Emergency phone number

Emergency Number (USA/Canada) CHEMTREC 1(800) 424-9300 / 1(703) 527-3887

Emergency Transport CANUTEC (Canada) 1-613-996-6666

## 2. Hazard identification



### Classification of the product

Skin irritation, Category 2

Causes skin irritation.

Respiratory Sensitization, Category 1

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin Sensitization, Category 1

May cause an allergic skin reaction.

Carcinogenicity, Category 2

Suspected of causing cancer if inhaled, in contact with skin and if swallowed.

Eye irritation, Category 2A

Causes serious eye irritation.

Specific target organ toxicity following single exposure, Category 3

May cause respiratory irritation.

Specific target organ toxicity following repeated exposure, Category 2

May cause damage to organs through prolonged or repeated exposure if inhaled or swallowed.

### Label elements

#### Hazard pictograms and Signal Word



Danger

### Hazard statements

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335 May cause respiratory irritation.

H351 Suspected of causing cancer if inhaled, in contact with skin and if swallowed.

H373 May cause damage to organs through prolonged or repeated exposure if inhaled or swallowed.

### Precautionary statements

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P260	Do not breathe vapours.
P264	Wash hands thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P501	Dispose of contents/container in accordance with applicable regulations.

**Other hazards**

None

**Ingredient(s) with unknown acute toxicity**

None

**3. Composition/information on ingredients**

**Substances**

Not Relevant

**Mixtures**

Hazardous components within the meaning of WHMIS 2015 and related classification:

**List of components**

Qty	Name	Ident. Numb.	Classification	Registration Number
25-50 %	dibutyl maleate; 2-butenedioic acid (2Z)-, 1,4-dibutyl ester	CAS:105-76-0 EC:203-328-4	Skin Sens. 1, H317; STOT RE 2, H373	
10-20 %	diphenylmethane-4,4'-diisocyanate	CAS:101-68-8 EC:202-966-0 Index:615-005-00-9	Acute Tox. 4, H332; Eye Irrit. 2A, H319; STOT SE 3, H335; Skin Irrit. 2, H315; Resp. Sens. 1, H334; Skin Sens. 1, H317; STOT RE 2, H373; Carc. 2, H351	01-2119457014-47-XXXX
5-10 %	4,4'-methylenediphenyl diisocyanate, oligomers; Benzene, 1,1'-methylenebis[4-isocyanato-, homopolymer	CAS:25686-28-6 EC:500-040-3	Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Resp. Sens. 1, H334; Skin Sens. 1, H317; Carc. 2, H351; STOT SE 3, H335; STOT RE 2, H373	
0.49-1 %	Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate / methylene diphenyl diisocyanate	CAS:26447-40-5 EC:247-714-0 Index:615-005-00-9	Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; Resp. Sens. 1, H334; Skin Sens. 1B, H317; Carc. 2, H351; STOT SE 3, H335; STOT RE 2, H373	01-2119457015-45-XXXX

The actual concentration of the components listed above is withheld as a trade secret.

**4. First-aid measures**

**Description of necessary first-aid measures**

In case of skin contact:

- Immediately take off all contaminated clothing.
- Remove contaminated clothing immediately and dispose of safely.
- After contact with skin, wash immediately with soap and plenty of water.
- If skin irritation or rash occurs: Get medical advice/attention.

In case of eyes contact:

After contact with the eyes, rinse with water with the eyelids open for a sufficient length of time, then consult an ophthalmologist immediately.

Protect uninjured eye.

Remove contact lenses, if present and easy to do. Continue rinsing.

In case of Ingestion:

Do not induce vomiting, get medical attention showing the SDS and the hazard label.

In case of Inhalation:

If breathing is irregular or stopped, administer artificial respiration.

In case of inhalation, consult a doctor immediately and show him packing or label.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

#### **Most important symptoms/effects, acute and delayed**

Eye irritation

Eye damages

Skin Irritation

Erythema

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

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Treatment:

(see paragraph 4.1)

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## **5. Fire-fighting measures**

### **Suitable and unsuitable extinguishing media**

Suitable extinguishing media:

Water.

Carbon dioxide (CO<sub>2</sub>).

Unsuitable extinguishing media:

None in particular.

### **Specific hazards arising from the hazardous product**

Do not inhale explosion and combustion gases.

Burning produces heavy smoke.

Hazardous combustion products: Not available

Explosive properties: Not available

Oxidizing properties: Not available

### **Special protective equipment and precautions for fire-fighters**

Use suitable breathing apparatus.

Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Move undamaged containers from immediate hazard area if it can be done safely.

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## **6. Accidental release measures**

### **Personal precautions, protective equipment and emergency procedures**

Wear personal protection equipment.

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Provide adequate ventilation.

Use appropriate respiratory protection.

Do not allow to enter into soil/subsoil. Do not allow to enter into surface water or drains.

Limit leakages with earth or sand.

### **Methods and material for containment and cleaning up**

Suitable material for taking up: absorbing material, organic, sand

Retain contaminated washing water and dispose it.

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## **7. Handling and storage**

### **Precautions for safe handling**

Avoid contact with skin and eyes, inhalation of vapours and mists.

Exercise the greatest care when handling or opening the container.

Do not use on extensive surface areas in premises where there are occupants.

Use localized ventilation system.

Don't use empty container before they have been cleaned.

Before making transfer operations, assure that there aren't any incompatible material residuals in the containers.

Contaminated clothing should be changed before entering eating areas.

Do not eat or drink while working.

Wash skin thoroughly after handling.

See also section 8 for recommended protective equipment.

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

Keep away from food, drink and feed.

Incompatible materials:

None in particular.

Instructions as regards storage premises:

Adequately ventilated premises.

Storage temperature: Not available

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**8. Exposure controls/personal protection**

**Control parameters**

**Community Occupational Exposure Limits (OEL)**

	<b>OEL Type</b>	<b>Country</b>	<b>Occupational Exposure Limit</b>
diphenylmethane-4,4'-diisocyanate CAS: 101-68-8	ACGIH		Long Term: 0.005 ppm Resp sens
	MAK	GERMANY	Long Term: 0.05 mg/m3
	ACGIH		Long Term: 0.005 ppm respiratory sensitization (listed under Methylene bisphenyl isocyanate (MDI))
	OSHA		Short Term: Ceiling - 0.2 mg/m3 - 0.02 ppm
	MAK	AUSTRIA	Long Term: 0.05 mg/m3 - 0.005 ppm; Short Term: 0.1 mg/m3 - 0.01 ppm
Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate / methylene diphenyl diisocyanate CAS: 26447-40-5	ACGIH		Long Term: 0.005 ppm respiratory sensitization (listed under Methylene bisphenyl isocyanate (MDI))
	OSHA		Short Term: Ceiling - 0.2 mg/m3 - 0.02 ppm
	OSHA		Short Term: Ceiling - 0.2 mg/m3 - 0.02 ppm
	MAK	AUSTRIA	Short Term: 0.1 mg/m3 - 0.01 ppm

**Predicted No Effect Concentration (PNEC) values**

diphenylmethane-4,4'-diisocyanate CAS: 101-68-8	Exposure Route: Fresh Water; PNEC Limit: 1 mg/l
	Exposure Route: Marine water; PNEC Limit: 0.1 mg/l
	Exposure Route: Soil; PNEC Limit: 1 mg/kg
	Exposure Route: Microorganisms in sewage treatments; PNEC Limit: 1 mg/l
	Exposure Route: Intermittent release; PNEC Limit: 10 mg/l

**Derived No Effect Level (DNEL) values**

diphenylmethane-4,4'-diisocyanate CAS: 101-68-8	Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects Worker Industry: 50 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects Worker Industry: 0.1 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects Worker Industry: 0.1 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects Worker Industry: 0.05 mg/m3
	Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects Worker Industry: 0.05 mg/m3
	Exposure Route: Human Dermal; Exposure Frequency: Short Term, systemic effects Consumer: 25 mg/kg
	Exposure Route: Human Inhalation; Exposure Frequency: Short Term, systemic effects

Consumer: 0.05 mg/m<sup>3</sup>

Exposure Route: Human Oral; Exposure Frequency: Short Term, systemic effects  
Consumer: 20 mg/kg

Exposure Route: Human Inhalation; Exposure Frequency: Short Term, local effects  
Consumer: 0.05 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, systemic effects  
Consumer: 0.025 mg/m<sup>3</sup>

Exposure Route: Human Inhalation; Exposure Frequency: Long Term, local effects  
Consumer: 0.025 mg/m<sup>3</sup>

Exposure Route: Human Dermal; Exposure Frequency: Short Term, local effects  
Worker Industry: 28.7 mg/cm<sup>2</sup>; Consumer: 17.2 mg/cm<sup>2</sup>

### Appropriate engineering controls

Not available

### Individual protection measures, such as personal protective equipment (PPE)

Eye protection:

Use close fitting safety goggles, don't use eye lens.

Protection for skin:

Use clothing that provides comprehensive protection to the skin, e.g. cotton, rubber, PVC or viton.

Protection for hands:

Suitable materials for safety gloves; 29 CFR 1910.138 - ANSI/ISEA 105:

Polychloroprene - CR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Nitrile rubber - NBR: thickness  $\geq 0,35\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Butyl rubber - IIR: thickness  $\geq 0,5\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Fluorinated rubber - FKM: thickness  $\geq 0,4\text{mm}$ ; breakthrough time  $\geq 480\text{min}$ .

Use impervious gloves that provides comprehensive protection, e.g. P.V.C., neoprene or rubber.

Respiratory protection:

Respiratory protection must be used where exposure levels exceed workplace exposure limits. Refer to 29 CFR 1910.134 - CSA Z94.4 for information on selection and use of appropriate respiratory protection equipment.

Use adequate protective respiratory equipment.

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## 9. Physical and chemical properties

### Information on basic physical and chemical properties

Physical state: Liquid

Appearance and colour: Cloudy

Odour: No data available

Odour threshold: No data available

pH: No data available

Melting point / freezing point: No data available

Initial boiling point and boiling range: No data available

Flash point: 100 °C (212 °F)

Evaporation rate: No data available

Upper/lower flammability or explosive limits: No data available

Vapour density: No data available

Vapour pressure: No data available

Relative density: No data available

Solubility in water: No data available

Solubility in oil: No data available

Partition coefficient (n-octanol/water): No data available

Auto-ignition temperature: No data available

Decomposition temperature: No data available

Viscosity: No data available

Explosive properties: No data available

Oxidizing properties: No data available

Solid/gas flammability: No data available

### Other information

Substance Groups relevant properties No data available

Miscibility: No data available

Fat Solubility: No data available

Conductivity: No data available

## 10. Stability and reactivity

### Reactivity

Stable under normal conditions

### Chemical stability

Data not available.

### Possibility of hazardous reactions

None.

### Conditions to avoid

Stable under normal conditions.

### Incompatible materials

None in particular.

### Hazardous decomposition products

None.

## 11. Toxicological information

### Information on toxicological effects

Likely routes of exposure:

Skin contact, skin absorption, eye contact, inhalation and ingestion.

### Toxicological Information of the Preparation

a) acute toxicity	Not classified
	Based on available data, the classification criteria are not met
b) skin corrosion/irritation	The product is classified: Skin irritation, Category 2(H315)
c) serious eye damage/irritation	The product is classified: Eye irritation, Category 2A(H319)
d) respiratory or skin sensitisation	The product is classified: Respiratory Sensitization, Category 1(H334), Skin Sensitization, Category 1(H317)
e) germ cell mutagenicity	Not classified
	Based on available data, the classification criteria are not met
f) carcinogenicity	The product is classified: Carcinogenicity, Category 2(H351)
g) reproductive toxicity	Not classified
	Based on available data, the classification criteria are not met
h) STOT-single exposure	The product is classified: Specific target organ toxicity following single exposure, Category 3(H335)
i) STOT-repeated exposure	The product is classified: Specific target organ toxicity following repeated exposure, Category 2(H373)
j) aspiration hazard	Not classified
	Based on available data, the classification criteria are not met

### Toxicological information on main components of the mixture:

dibutyl maleate; 2-butenedioic acid (2Z)-, 1,4-dibutyl ester	a) acute toxicity	LD50 Oral Rat = 3730 mg/kg	
diphenylmethane-4,4'-diisocyanate	a) acute toxicity	LD50 Oral Rat > 2000 mg/kg	
		LD50 Skin Rabbit > 9400 mg/kg	
	b) skin corrosion/irritation	Skin Irritant Skin Rabbit Positive	
	d) respiratory or skin sensitisation	Skin Sensitization Skin Mouse Positive	
		Respiratory Sensitization Inhalation Positive	
	f) carcinogenicity	Carcinogenicity Inhalation Rat = 6 mg/m <sup>3</sup>	2 y
	g) reproductive toxicity	NOAEL Inhalation Rat = 12 mg/m <sup>3</sup>	20 d
Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate / methylene diphenyl diisocyanate	a) acute toxicity	LD50 Skin Rabbit > 10000 mg/kg	

LC50 Inhalation Rat = 490 mg/m3 4h

LD50 Oral Rat > 10000 mg/kg

**Substance(s) listed on the IARC Monographs:**

diphenylmethane-4,4'-diisocyanate Group 3

Reaction mass of 4,4'- Group 3

methylenediphenyl diisocyanate  
and o-(p-isocyanatobenzyl)phenyl  
isocyanate / methylene diphenyl  
diisocyanate

**Substance(s) listed as OSHA Carcinogen(s):**

None

**Substance(s) listed as NIOSH Carcinogen(s):**

None

**Substance(s) listed on the NTP report on Carcinogens:**

None

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**12. Ecological information**

**Ecotoxicity**

Adopt good working practices, so that the product is not released into the environment.

**List of Eco-Toxicological properties of the product**

Not classified for environmental hazards.

Based on available data, the classification criteria are not met

**List of Eco-Toxicological properties of the components**

**Component**

**Ident. Numb.**

**Ecotox Data**

dibutyl maleate; 2-butenedioic  
acid (2Z)-, 1,4-dibutyl ester

CAS: 105-76-0 -  
EINECS: 203-  
328-4

a) Aquatic acute toxicity : EC50 Daphnia Daphnia magna = 21 mg/L 48h  
IUCLID

a) Aquatic acute toxicity : LC50 Fish Oncorhynchus mykiss = 1.2 mg/L 96h  
ECHA

a) Aquatic acute toxicity : EC50 Algae Scenedesmus subspicatus = 6.2 mg/L  
72h IUCLID

diphenylmethane-4,4'-diisocyanate

CAS: 101-68-8 -  
EINECS: 202-  
966-0 - INDEX:  
615-005-00-9

a) Aquatic acute toxicity : LC50 Fish > 1000 mg/L 96

a) Aquatic acute toxicity : EC50 Daphnia > 1000 mg/L 24

b) Aquatic chronic toxicity : NOEC Daphnia > 10 mg/L - 21 d

a) Aquatic acute toxicity : EC50 Algae > 1640 mg/L 72

c) Bacteria toxicity : EC50 > 100 mg/L 3

d) Terrestrial toxicity : NOEC > 1000 mg/kg - 14 d

e) Plant toxicity : NOEC > 1000 mg/kg - 14 d

Reaction mass of 4,4'-  
methylenediphenyl diisocyanate  
and o-(p-isocyanatobenzyl)phenyl  
isocyanate / methylene diphenyl  
diisocyanate

CAS: 26447-40-  
5 - EINECS:  
247-714-0 -  
INDEX: 615-  
005-00-9

d) Terrestrial toxicity : LC50 Worm Eisenia foetida > 1000 mg/kg 14d IUCLID

d) Terrestrial toxicity : NOEC Worm Eisenia foetida >= 1000 mg/kg 14d  
IUCLID

**Persistence and degradability**

N.A.

**Bioaccumulative potential**

N.A.

**Mobility in soil**

N.A.

**Other adverse effects**

N.A.

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**13. Disposal considerations**

**Safe handling and methods for disposal**

The generation of waste should be avoided or minimized wherever possible. Recover if possible.

Methods of disposal:

Disposal of this product, solutions, packaging 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 nonrecyclable products via a licensed waste disposal contractor.

Do not dispose of waste into sewers.

Disposal considerations:

Do not allow to enter drains or watercourses.

Dispose of product according to all federal, state and local applicable regulations.

If this product is mixed with other wastes, the original waste product code may no longer apply and the appropriate code should be assigned.

Dispose of containers contaminated by the product in accordance with local or national legal provisions. For further information, contact your local waste authority.

Special precautions:

This material and its container must be disposed of in a safe way. Care should be taken when handling untreated empty containers.

Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Empty containers or liners may retain some product residues. Do not re-use empty containers.

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**14. Transport information**

Not classified as dangerous in the meaning of transport regulations.

**UN number**

TDG-UN number: Not Applicable

ADR-UN number: Not Applicable

DOT-UN Number: Not Applicable

IATA-Un number: Not Applicable

IMDG-Un number: Not Applicable

**UN proper shipping name**

TDG-Shipping Name: Not Applicable

ADR-Shipping Name: Not Applicable

DOT-Proper Shipping Name: Not Applicable

IATA-Technical name: Not Applicable

IMDG-Technical name: Not Applicable

**Transport hazard class(es)**

TDG-Class: Not Applicable

ADR-Class: Not Applicable

DOT-Hazard Class: Not Applicable

IATA-Class: Not Applicable

IMDG-Class: Not Applicable

**Packing group**

TDG-Packing Group: Not Applicable

ADR-Packing Group: Not Applicable

DOT Packing Group: Not Applicable

IATA-Packing group: Not Applicable

IMDG-Packing group: Not Applicable

**Environmental hazards**

Marine pollutant: No

Environmental Pollutant: Not Applicable

DOT-RQ: Not Applicable

**Transport in bulk (according to Annex II of MARPOL 73/78 and the IBC Code)**

Not Applicable

**Special precautions in connection with transport or conveyance**

TDG:

Not Applicable

Department of Transportation (DOT):

Not Applicable

Road and Rail (ADR-RID):



Not Applicable

Air (IATA):

Not Applicable

Sea (IMDG):

Not Applicable

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## 15. Regulatory information

### Canada - Federal regulations

#### DSL - Domestic Substances List

All the substances are listed in the DSL.

#### NDSL - Non Domestic Substances List

This product complies with NDSL inventory

#### NPRI - National Pollutant Release Inventory

**NPRI (National Pollutant Release Inventory) - List of substances listed.**

No substances listed

### USA - Federal regulations

#### TSCA - Toxic Substances Control Act

All the components are listed on the TSCA inventory

##### TSCA listed substances:

dibutyl maleate; 2-butenedioic acid (2Z)-, 1,4-dibutyl ester is listed in TSCA Section 8b

diphenylmethane-4,4'-diisocyanate is listed in TSCA Section 8b Section 8a - PAIR Section 5

4,4'-methylenediphenyl diisocyanate, oligomers; Benzene, 1,1'-methylenebis[4-isocyanato-, homopolymer is listed in TSCA Section 8b

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate / methylene diphenyl diisocyanate is listed in TSCA Section 8b Section 8a - PAIR Section 5

#### SARA - Superfund Amendments and Reauthorization Act

##### Section 302 - Extremely Hazardous Substances:

No substances listed

##### Section 304 - Hazardous substances:

diphenylmethane-4,4'-diisocyanate

##### Section 313 - Toxic chemical list:

diphenylmethane-4,4'-diisocyanate

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate / methylene diphenyl diisocyanate

#### CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act

##### Substance(s) listed under CERCLA:

diphenylmethane-4,4'-diisocyanate Reportable quantity: 5000 pounds

#### CAA - Clean Air Act

##### CAA listed substances:

diphenylmethane-4,4'-diisocyanate is listed in CAA Section 112(b) - HAP Section 112(b) - HON

#### CWA - Clean Water Act

##### CWA listed substances:

No substances listed

### USA - State specific regulations

#### California Proposition 65

##### Substance(s) listed under California Proposition 65:

No substances listed

#### Massachusetts Right to know

##### Substance(s) listed under Massachusetts Right to know:

diphenylmethane-4,4'-diisocyanate

#### Pennsylvania Right to know

**Substance(s) listed under Pennsylvania Right to know:**

diphenylmethane-4,4'-diisocyanate

**New Jersey Right to know****Substance(s) listed under New Jersey Right to know:**

diphenylmethane-4,4'-diisocyanate

Reaction mass of 4,4'-methylenediphenyl diisocyanate and o-(p-isocyanatobenzyl)phenyl isocyanate / methylene diphenyl diisocyanate

**16. Other information**

Safety Data Sheet dated: 12/14/2023 - version 1

Reasonable care has been taken in the preparation of this information, but the manufacturer makes no warranty of merchantability or any other warranty, expressed or implied, with respect to this information. The manufacturer makes no representations and assumes no liability for any direct, incidental or consequential damages resulting from its use. The information herein is presented in good faith and believed to be accurate as of the effective date given. It is the buyer's responsibility to ensure that its activities comply with Federal, State or provincial, and local laws.

This document was prepared by a competent person who has received appropriate training.

It is the duty of the user to ensure that this information is appropriate and complete with respect to the specific use intended.

This SDS cancels and replaces any preceding release.

Code	Description
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.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure if inhaled.

Code	Hazard class and hazard category	Description
A.1/4/Inhal	Acute Tox. 4	Acute toxicity (inhalation), Category 4
A.2/2	Skin Irrit. 2	Skin irritation, Category 2
A.3/2A	Eye Irrit. 2A	Eye irritation, Category 2A
A.4.1/1	Resp. Sens. 1	Respiratory Sensitization, Category 1
A.4.2/1	Skin Sens. 1	Skin Sensitization, Category 1
A.4.2/1B	Skin Sens. 1B	Skin Sensitization, Category 1B
A.6/2	Carc. 2	Carcinogenicity, Category 2
A.8/3	STOT SE 3	Specific target organ toxicity following single exposure, Category 3
A.9/2	STOT RE 2	Specific target organ toxicity following repeated exposure, Category 2

**Legend to abbreviations and acronyms used in the safety data sheet:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.

RID: Regulation Concerning the International Transport of Dangerous Goods by Rail.

IMDG: International Maritime Code for Dangerous Goods.

IATA: International Air Transport Association.

IATA-DGR: Dangerous Goods Regulation by the "International Air Transport Association" (IATA).

ICAO: International Civil Aviation Organization.

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO).

GHS: Globally Harmonized System of Classification and Labeling of Chemicals.

CLP: Classification, Labeling, Packaging.

EINECS: European Inventory of Existing Commercial Chemical Substances.

INCI: International Nomenclature of Cosmetic Ingredients.

CAS: Chemical Abstracts Service (division of the American Chemical Society).

GefStoffVO: Ordinance on Hazardous Substances, Germany.

LC50: Lethal concentration, for 50 percent of test population.

LD50: Lethal dose, for 50 percent of test population.

DNEL: Derived No Effect Level.

PNEC: Predicted No Effect Concentration.

TLV: Threshold Limiting Value.

TWATLV: Threshold Limit Value for the Time Weighted Average 8 hour day. (ACGIH Standard).

STEL: Short Term Exposure limit.

STOT: Specific Target Organ Toxicity.

WGK: German Water Hazard Class.

KSt: Explosion coefficient.