

SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name or designation of the mixture	CIM 1000TG Cartridge
Registration number	-
Synonyms	None.
Issue date	13-July-2016
Version number	01

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

Identified uses	Not available.
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Supplier

Company name	CIM INDUSTRIES INC	
Address	6900 NELMS STREET HOUSTON, TX 77061 United States	
Division	A CHASE CORPORATION COMPANY	
Telephone	General Assistance	800 543-3458
e-mail	info@chasecorp.com	
Contact person	Not available.	

1.4. Emergency telephone number	Chemtrec (US - 24 hrs)	800 424-9300
	Chemtrec (INTL - 24 hrs)	703-527-3887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The mixture has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Directive 67/548/EEC or 1999/45/EC as amended

Classification R10, Carc. Cat. 2;R45, Muta. Cat. 2;R46, Xn;R20-48/20, Xi;R36/37/38, R42/43, N;R51/53

The full text for all R-phrases is displayed in section 16.

Classification according to Regulation (EC) No 1272/2008 as amended

Physical hazards

Flammable liquids	Category 3	H226 - Flammable liquid and vapour.
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Health hazards

Acute toxicity, oral	Category 4	H302 - Harmful if swallowed.
Acute toxicity, inhalation	Category 4	H332 - Harmful if inhaled.
Skin corrosion/irritation	Category 2	H315 - Causes skin irritation.
Serious eye damage/eye irritation	Category 2	H319 - Causes serious eye irritation.
Respiratory sensitisation	Category 1	H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Skin sensitisation	Category 1	H317 - May cause an allergic skin reaction.
Germ cell mutagenicity	Category 1B	H340 - May cause genetic defects.
Carcinogenicity	Category 1B	H350 - May cause cancer.
Specific target organ toxicity - single exposure	Category 3 respiratory tract irritation	H335 - May cause respiratory irritation.
Specific target organ toxicity - repeated exposure	Category 2	H373 - May cause damage to organs through prolonged or repeated exposure.

Environmental hazards

Hazardous to the aquatic environment, long-term aquatic hazard	Category 2	H411 - Toxic to aquatic life with long lasting effects.
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Hazard summary

Physical hazards	Flammable.
Health hazards	May cause cancer. May cause heritable genetic damage. Also harmful by inhalation. Irritating to eyes, respiratory system and skin. May cause sensitisation by inhalation and skin contact. Also harmful: danger of serious damage to health by prolonged exposure through inhalation. Occupational exposure to the substance or mixture may cause adverse health effects.
Environmental hazards	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Specific hazards	Prolonged exposure may cause chronic effects.
Main symptoms	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES], Oleylamine, Stoddard solvent

Hazard pictograms



Signal word

Danger

Hazard statements

H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
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.
H340	May cause genetic defects.
H350	May cause cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H411	Toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P243	Take precautionary measures against static discharge.
P264	Wash thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear eye protection/face protection.
P280	Wear protective gloves/protective clothing/eye protection/face protection.

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.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P330	Rinse mouth.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.

P337 + P313
P370 + P378
P391

If eye irritation persists: Get medical advice/attention.
In case of fire: Use appropriate media to extinguish.
Collect spillage.

Storage

P403 + P235
P405

Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information

95,91 % of the mixture consists of component(s) of unknown acute oral toxicity. 81,85 % of the mixture consists of component(s) of unknown acute inhalation toxicity. 92,32 % of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

2.3. Other hazards

None known.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES]	10 - < 20	9016-87-9 202-966-0	-	615-005-00-9	
Classification:		DSD: Carc. Cat. 3;R40, Xn;R20-48/20, Xi;R36/37/38, R42/43			C,2
		CLP: Skin Irrit. 2;H315, Skin Sens. 1;H317, Eye Irrit. 2;H319, Acute Tox. 4;H332, Resp. Sens. 1;H334, STOT SE 3;H335, Carc. 2;H351, STOT RE 2;H373			2,C
Distillates (petroleum), hydrotreated light	5 - < 10	64742-47-8 265-149-8	-	649-422-00-2	
Classification:		DSD: Xn;R65			
		CLP: Asp. Tox. 1;H304, Aquatic Chronic 2;H411			
Stoddard solvent	1 - < 3	8052-41-3 232-489-3	-	649-345-00-4	
Classification:		DSD: Carc. Cat. 2;R45, Muta. Cat. 2;R46, Xn;R65-48/20			P
		CLP: Flam. Liq. 3;H226, Asp. Tox. 1;H304, Muta. 1B;H340, Carc. 1B;H350, STOT RE 1;H372			P
Oleylamine	1 - < 3	112-90-3 204-015-5	-	612-283-00-3	M=10
Classification:		DSD: C;R34, Xn;R22-65-48/22, N;R50-53			
		CLP: Acute Tox. 4;H302, Asp. Tox. 1;H304, Skin Corr. 1B;H314, Eye Dam. 1;H318, STOT SE 3;H335, STOT RE 2;H373, Aquatic Acute 1;H400, Aquatic Chronic 1;H410			
Other components below reportable levels	70 - < 80				

Isomer

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
4,4'-Methylenediphenyl diisocyanate	8 - 12	101-68-8 202-966-0	-	615-005-00-9	

List of abbreviations and symbols that may be used above

CLP: Regulation No. 1272/2008.

DSD: Directive 67/548/EEC.

M: M-factor

vPvB: very persistent and very bioaccumulative substance.

PBT: persistent, bioaccumulative and toxic substance.

#: This substance has been assigned Community workplace exposure limit(s).

Composition comments

The full text for all R- and H-phrases is displayed in section 16. Note: CAS 101-68-8 is an MDI isomer that is part of CAS 9016-87-9

SECTION 4: First aid measures

General information	Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before reuse.
4.1. Description of first aid measures	
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If experiencing respiratory symptoms: Call a POISON CENTRE or doctor/physician.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs. Get medical advice/attention if you feel unwell.
4.2. Most important symptoms and effects, both acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash. Prolonged exposure may cause chronic effects.
4.3. Indication of any immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.

SECTION 5: Firefighting measures

General fire hazards	Flammable liquid and vapour.
5.1. Extinguishing media	
Suitable extinguishing media	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂).
Unsuitable extinguishing media	Water. Do not use water jet as an extinguisher, as this will spread the fire.
5.2. Special hazards arising from the substance or mixture	Vapours may form explosive mixtures with air. Vapours may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
5.3. Advice for firefighters	
Special protective equipment for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Special fire fighting procedures	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapour. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8.
For emergency responders	Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Use personal protection recommended in Section 8 of the SDS.
6.2. Environmental precautions	Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Avoid discharge into drains, water courses or onto the ground. Inform appropriate managerial or supervisory personnel of all environmental releases.

6.3. Methods and material for containment and cleaning up

Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil etc) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.

6.4. Reference to other sections

For personal protection, see section 8. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapour. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Do not taste or swallow. When using, do not eat, drink or smoke. Should be handled in closed systems, if possible. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Wash hands thoroughly after handling. Avoid release to the environment. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

7.3. Specific end use(s)

Not available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List, OEL Ordinance (GwV), BGBl. II, no. 184/2001

Components	Type	Value
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	Ceiling	0,1 mg/m ³
	MAK	0,01 ppm 0,05 mg/m ³ 0,005 ppm
Isomer	Type	Value

4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	Ceiling	0,1 mg/m ³
	MAK	0,01 ppm 0,05 mg/m ³ 0,005 ppm

Belgium. Exposure Limit Values.

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	TWA	5 mg/m ³	Fume.
Carbon black (CAS 1333-86-4)	TWA	3,5 mg/m ³	
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	TWA	0,052 mg/m ³	
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	TWA	0,005 ppm 200 mg/m ³	Vapor.

Belgium. Exposure Limit Values.

Components	Type	Value	Form
Stoddard solvent (CAS 8052-41-3)	TWA	533 mg/m ³	
		100 ppm	
Isomer	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0,052 mg/m ³	
		0,005 ppm	

Bulgaria. OELs. Regulation No 13 on protection of workers against risks of exposure to chemical agents at work

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	STEL	10 mg/m ³	
	TWA	5 mg/m ³	
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	STEL	0,07 mg/m ³	
	TWA	0,05 mg/m ³	
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	TWA	300 mg/m ³	
Isomer	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,07 mg/m ³	
	TWA	0,05 mg/m ³	

Croatia. Dangerous Substance Exposure Limit Values in the Workplace (ELVs), Annexes 1 and 2, Narodne Novine, 13/09

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	MAC	5 mg/m ³	
	STEL	10 mg/m ³	
Carbon black (CAS 1333-86-4)	MAC	3,5 mg/m ³	
	STEL	7 mg/m ³	

Cyprus. OELs. Control of factory atmosphere and dangerous substances in factories regulation, PI 311/73, as amended.

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	TWA	5 mg/m ³	Fume.
Carbon black (CAS 1333-86-4)	TWA	3,5 mg/m ³	
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	TWA	0,2 mg/m ³	
		0,02 ppm	
Isomer	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0,2 mg/m ³	
		0,02 ppm	

Czech Republic. OELs. Government Decree 361

Components	Type	Value	Form
Carbon black (CAS 1333-86-4)	TWA	2 mg/m ³	Dust.
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	Ceiling	0,1 mg/m ³	
	TWA	0,05 mg/m ³	
Isomer	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	Ceiling	0,1 mg/m ³	
	TWA	0,05 mg/m ³	

Denmark. Exposure Limit Values

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	TLV	1 mg/m ³	Dust.
Carbon black (CAS 1333-86-4)	TLV	3,5 mg/m ³	
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	TLV	0,05 mg/m ³	
Stoddard solvent (CAS 8052-41-3)	TLV	0,005 ppm 145 mg/m ³	
Isomer	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	TLV	0,05 mg/m ³	
		0,005 ppm	

Estonia. OELs. Occupational Exposure Limits of Hazardous Substances. (Annex of Regulation No. 293 of 18 September 2001)

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	TWA	5 mg/m ³	Vapor.
Stoddard solvent (CAS 8052-41-3)	STEL	600 mg/m ³	
	TWA	100 ppm 300 mg/m ³ 50 ppm	
Isomer	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	Ceiling	0,1 mg/m ³	
	TWA	0,01 ppm 0,05 mg/m ³ 0,005 ppm	

Finland. Workplace Exposure Limits

Components	Type	Value
Carbon black (CAS 1333-86-4)	STEL	7 mg/m ³
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	TWA TWA	3,5 mg/m ³ 500 mg/m ³
Isomer	Type	Value
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,035 mg/m ³

France. Threshold Limit Values (VLEP) for Occupational Exposure to Chemicals in France, INRS ED 984

Components	Type	Value
Carbon black (CAS 1333-86-4)	VME	3,5 mg/m ³
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	VLE	0,2 mg/m ³
	VME	0,02 ppm 0,1 mg/m ³ 0,01 ppm
Isomer	Type	Value
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	VLE	0,2 mg/m ³
	VME	0,02 ppm 0,1 mg/m ³ 0,01 ppm

Germany. DFG MAK List (advisory OELs). Commission for the Investigation of Health Hazards of Chemical Compounds in the Work Area (DFG)

Components	Type	Value	Form
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	TWA	0,05 mg/m ³	Inhalable fraction.
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	TWA	140 mg/m ³	Vapor and aerosol.
Isomer	Type	Value	Form
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0,05 mg/m ³	Inhalable fraction.

Germany. TRGS 900, Limit Values in the Ambient Air at the Workplace

Components	Type	Value	Form
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	AGW	0,05 mg/m ³	Inhalable fraction.
Isomer	Type	Value	Form
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	AGW	0,05 mg/m ³	Fume and aerosol.

Greece. OELs (Decree No. 90/1999, as amended)

Components	Type	Value
Asphalt (CAS 8052-42-4)	TWA	5 mg/m ³
Carbon black (CAS 1333-86-4)	STEL	7 mg/m ³
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	TWA	3,5 mg/m ³
	STEL	0,2 mg/m ³
Stoddard solvent (CAS 8052-41-3)	TWA	0,02 ppm 0,2 mg/m ³
	STEL	0,02 ppm 720 mg/m ³
	TWA	125 ppm 575 mg/m ³ 100 ppm
Isomer	Type	Value
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,2 mg/m ³
	TWA	0,02 ppm 0,2 mg/m ³ 0,02 ppm

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	STEL	0,05 mg/m ³
Isomer	Type	Value
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0,05 mg/m ³
	STEL	0,05 mg/m ³
	TWA	0,05 mg/m ³

Iceland. OELs. Regulation 154/1999 on occupational exposure limits

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	TWA	5 mg/m ³	Fume.
Carbon black (CAS 1333-86-4)	TWA	3,5 mg/m ³	
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	STEL	0,1 mg/m ³	
	TWA	0,01 ppm 0,05 mg/m ³ 0,005 ppm	
Stoddard solvent (CAS 8052-41-3)	TWA	145 mg/m ³	

Isomer	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,1 mg/m ³	
	TWA	0,01 ppm 0,05 mg/m ³ 0,005 ppm	

Ireland. Occupational Exposure Limits

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	STEL	10 mg/m ³	Fume.
	TWA	0,5 mg/m ³	Fume.
Carbon black (CAS 1333-86-4)	STEL	7 mg/m ³	
	TWA	3,5 mg/m ³	
Stoddard solvent (CAS 8052-41-3)	TWA	573 mg/m ³	

Isomer	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,07 mg/m ³	
	TWA	0,02 mg/m ³	

Italy. Occupational Exposure Limits

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	TWA	0,5 mg/m ³	Inhalable fraction.
Carbon black (CAS 1333-86-4)	TWA	3 mg/m ³	Inhalable fraction.
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	TWA	0,005 ppm	
Stoddard solvent (CAS 8052-41-3)	TWA	100 ppm	

Isomer	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0,005 ppm	

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Components	Type	Value	
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	STEL	500 mg/m ³	
	TWA	350 mg/m ³	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	Ceiling	0,1 mg/m ³	
	TWA	0,01 ppm 0,05 mg/m ³	

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements

Isomer	Type	Value
		0,005 ppm

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	TLV	5 mg/m3	Fume.
Carbon black (CAS 1333-86-4)	TLV	3,5 mg/m3	
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	TLV	0,05 mg/m3	
		0,005 ppm	
		0,005 ppm	
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	TLV	275 mg/m3	

Isomer	Type	Value
		40 ppm
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,01 ppm
	TLV	0,05 mg/m3
		0,005 ppm

Poland. MACs. Regulation regarding maximum permissible concentrations and intensities of harmful factors in the work environment, Annex 1

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	STEL	10 mg/m3	Inhalable fraction.
	TWA	5 mg/m3	Inhalable fraction.
Carbon black (CAS 1333-86-4)	TWA	4 mg/m3	Inhalable fraction.
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	STEL	0,09 mg/m3	
	TWA	0,03 mg/m3	
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	STEL	300 mg/m3	
	TWA	100 mg/m3	
Stoddard solvent (CAS 8052-41-3)	STEL	900 mg/m3	
	TWA	300 mg/m3	
Isomer	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,09 mg/m3	
	TWA	0,03 mg/m3	

Portugal. VLEs. Norm on occupational exposure to chemical agents (NP 1796)

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	TWA	0,5 mg/m3	Inhalable fume.
Carbon black (CAS 1333-86-4)	TWA	3,5 mg/m3	Fume.
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	TWA	0,005 ppm	
Stoddard solvent (CAS 8052-41-3)	TWA	100 ppm	
Isomer	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0,005 ppm	

Romania. OELs. Protection of workers from exposure to chemical agents at the workplace

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	TWA	5 mg/m ³	Fume.
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	STEL	0,15 mg/m ³	
Stoddard solvent (CAS 8052-41-3)	STEL	1000 mg/m ³	
Isomer	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,15 mg/m ³	

Slovakia. OELs. Regulation No. 300/2007 concerning protection of health in work with chemical agents

Components	Type	Value	
Carbon black (CAS 1333-86-4)	TWA	2 mg/m ³	
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	TWA	0,03 mg/m ³	
Stoddard solvent (CAS 8052-41-3)	STEL	0,002 ppm 600 mg/m ³	
	TWA	100 ppm 300 mg/m ³ 50 ppm	
Isomer	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0,03 mg/m ³	
		0,002 ppm	

Slovenia. OELs. Regulations concerning protection of workers against risks due to exposure to chemicals while working (Official Gazette of the Republic of Slovenia)

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	TWA	10 ppm	Vapor and aerosol.
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	TWA	0,05 mg/m ³	
Isomer	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0,05 mg/m ³	

Spain. Occupational Exposure Limits

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	TWA	0,5 mg/m ³	Aerosol
Carbon black (CAS 1333-86-4)	TWA	3,5 mg/m ³	
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	TWA	0,052 mg/m ³	
		0,005 ppm	
Isomer	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0,052 mg/m ³	
		0,005 ppm	

Sweden. Occupational Exposure Limit Values

Components	Type	Value
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)	STEL	500 mg/m3
Stoddard solvent (CAS 8052-41-3)	TWA	350 mg/m3
	STEL	300 mg/m3
	TWA	50 ppm 150 mg/m3 25 ppm
Isomer	Type	Value
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	Ceiling	0,05 mg/m3
	TWA	0,005 ppm 0,03 mg/m3 0,002 ppm

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	TWA	10 mg/m3	Vapor and aerosol.
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	STEL	0,02 mg/m3	
Isomer	TWA	0,02 mg/m3	
	Type	Value	
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,02 mg/m3	
	TWA	0,02 mg/m3	

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value	Form
Asphalt (CAS 8052-42-4)	STEL	10 mg/m3	Fume.
	TWA	5 mg/m3	Fume.
Carbon black (CAS 1333-86-4)	STEL	7 mg/m3	
	TWA	3,5 mg/m3	
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	STEL	0,07 mg/m3	
	TWA	0,02 mg/m3	
Isomer	Type	Value	
	4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,07 mg/m3
TWA		0,02 mg/m3	

Biological limit values

Switzerland. BAT-Werte (Biological Limit Values in the Workplace as per SUVA)

Components	Value	Determinant	Specimen	Sampling time
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)	10 µg/g	4,4'-Diaminodiphenylmethan	Creatinine in urine	*
Isomer	Value	Determinant	Specimen	Sampling time
	4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)	10 µg/g	4,4'-Diaminodiphenylmethan	Creatinine in urine

* - For sampling details, please see the source document.

Recommended monitoring procedures Follow standard monitoring procedures.

Derived no-effect level (DNEL) Not available.

Predicted no effect concentrations (PNECs) Not available.

8.2. Exposure controls

Appropriate engineering controls

Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

General information

Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection

Chemical respirator with organic vapour cartridge and full facepiece.

Skin protection

- Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

- Other

Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.

Respiratory protection

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. Chemical respirator with organic vapour cartridge and full facepiece.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

Hygiene measures

When using do not smoke. Keep away from food and drink. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

Environmental exposure controls

Inform appropriate managerial or supervisory personnel of all environmental releases.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Physical state

Liquid.

Form

Liquid. Two component cartridge

Colour

Brown. and Black

Odour

Hydrocarbon-like.

Odour threshold

0,4 ppm

pH

Not available.

Melting point/freezing point

Forms crystals below 10°C

Initial boiling point and boiling range

175 °C (347 °F)

Flash point

38,3 °C (101,0 °F)

Evaporation rate

Not available.

Flammability (solid, gas)

Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)

0,7 % estimated

Flammability limit - upper (%)

5 % estimated

Vapour pressure

3,4 hPa estimated

Vapour density

4,9

Relative density

Not available.

Solubility(ies)

Solubility (water)

6,8 mg/l

Solubility (other)

Not available.

Partition coefficient (n-octanol/water)

Not available.

Auto-ignition temperature

200 °C (392 °F)

Decomposition temperature	Not available.
Viscosity	Not available.
Explosive properties	Not explosive.
Oxidising properties	Not oxidising. No oxidizing properties.

9.2. Other information

Density	0,90 - 1,30 g/cm3
Explosivity	Not explosive
Percent volatile	< 10 %
Specific gravity	0,9 - 1,3 estimated
VOC (Weight %)	88 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.
10.4. Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
10.5. Incompatible materials	Acids. Strong oxidising agents. Alcohols.
10.6. Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11: Toxicological information

General information Occupational exposure to the substance or mixture may cause adverse effects.

Information on likely routes of exposure

Inhalation	Harmful if inhaled. May cause damage to organs through prolonged or repeated exposure by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Harmful if swallowed.

Symptoms Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Difficulty in breathing. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

11.1. Information on toxicological effects

Acute toxicity Harmful if inhaled. Harmful if swallowed. May cause an allergic skin reaction. May cause respiratory irritation.

Components	Species	Test results
DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)		
Acute		
Inhalation		
LC50	Rat	0,369 mg/l, 4 Hours
Isomer	Species	Test results
4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)		
Acute		
Inhalation		
LC50	Rat	0,369 mg/l, 4 Hours

* Estimates for product may be based on additional component data not shown.

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory sensitisation	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	May cause genetic defects.
Carcinogenicity	May cause cancer.

IARC Monographs. Overall Evaluation of Carcinogenicity

4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8) 3 Not classifiable as to carcinogenicity to humans.

DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9) 3 Not classifiable as to carcinogenicity to humans.
Stoddard solvent (CAS 8052-41-3) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity Due to partial or complete lack of data the classification is not possible.
Specific target organ toxicity - single exposure May cause respiratory irritation.
Specific target organ toxicity - repeated exposure May cause damage to organs through prolonged or repeated exposure.
Aspiration hazard Due to partial or complete lack of data the classification is not possible.
Mixture versus substance information No information available.
Other information Not available.

SECTION 12: Ecological information

12.1. Toxicity Toxic to aquatic life with long lasting effects.

Components	Species	Test results
Distillates (petroleum), hydrotreated light (CAS 64742-47-8)		
Aquatic		
Fish	LC50 Rainbow trout, donaldson trout (Oncorhynchus mykiss)	2,9 mg/l, 96 hours

* Estimates for product may be based on additional component data not shown.

12.2. Persistence and degradability No data is available on the degradability of this product.

12.3. Bioaccumulative potential

Partition coefficient n-octanol/water (log Kow)

Stoddard solvent 3,16 - 7,15

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil No data available.

12.5. Results of PBT and vPvB assessment Not available.

12.6. Other adverse effects No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

EU waste code The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Disposal methods/information Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.

Special precautions Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number UN1993
14.2. UN proper shipping name FLAMMABLE LIQUID, N.O.S. (Asphalt)
14.3. Transport hazard class(es)
Class 3
Subsidiary risk -
Label(s) 3
Hazard No. (ADR) 30

Tunnel restriction code D/E
14.4. Packing group III
14.5. Environmental hazards Yes
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number UN1993
14.2. UN proper shipping name FLAMMABLE LIQUID, N.O.S. (Asphalt)
14.3. Transport hazard class(es)
Class 3
Subsidiary risk -
Label(s) 3
14.4. Packing group III
14.5. Environmental hazards Yes
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number UN1993
14.2. UN proper shipping name Flammable liquid, n.o.s. (Asphalt)
14.3. Transport hazard class(es)
Class 3
Subsidiary risk -
Label(s) 3
14.4. Packing group III
14.5. Environmental hazards Yes
14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IATA

Not regulated as dangerous goods.

IMDG

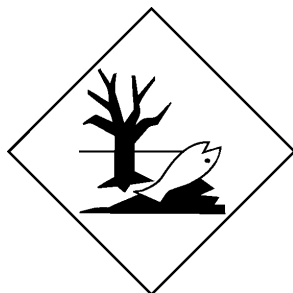
Not regulated as dangerous goods.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code Not established.

ADN; ADR; RID



Marine pollutant



SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)

DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)

Stoddard solvent (CAS 8052-41-3)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended

Stoddard solvent (CAS 8052-41-3)

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding, as amended

4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)

DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)

Stoddard solvent (CAS 8052-41-3)

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances

Oleylamine (CAS 112-90-3)

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended

4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)

DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)

Distillates (petroleum), hydrotreated light (CAS 64742-47-8)

Oleylamine (CAS 112-90-3)

Stoddard solvent (CAS 8052-41-3)

Directive 94/33/EC on the protection of young people at work, as amended

4,4'-Methylenediphenyl diisocyanate (CAS 101-68-8)

DIPHENYLMETHANE DIISOCYANATE [ISOMERS AND HOMOLOGUES] (CAS 9016-87-9)

Oleylamine (CAS 112-90-3)

Stoddard solvent (CAS 8052-41-3)

Other regulations

The product is classified and labelled in accordance with EC directives or respective national laws. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006. Pregnant women should not work with the product, if there is the least risk of exposure.

National regulations

Young people under 18 years old are not allowed to work with this product according to EU Directive 94/33/EC on the protection of young people at work. Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment

No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

Not available.

References

Not available.

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any statements or R-phrases and H-statements under Sections 2 to 15

R10 Flammable.
R20 Harmful by inhalation.
R22 Harmful if swallowed.
R34 Causes burns.
R36/37/38 Irritating to eyes, respiratory system and skin.
R40 Limited evidence of a carcinogenic effect.
R42/43 May cause sensitisation by inhalation and skin contact.
R45 May cause cancer.
R46 May cause heritable genetic damage.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R48/22 Harmful: danger of serious damage to health by prolonged exposure if swallowed.
R50 Very toxic to aquatic organisms.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R53 May cause long-term adverse effects in the aquatic environment.
R65 Harmful: may cause lung damage if swallowed.
H226 Flammable liquid and vapour.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
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.
H340 May cause genetic defects.
H350 May cause cancer.
H351 Suspected of causing cancer.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.

Revision information

Product and Company Identification: Product and Company Identification
Composition / Information on Ingredients: Potential Compounds Formed
Physical & Chemical Properties: Multiple Properties
Transport Information: Material Transportation Information
GHS: Classification

Training information

Follow training instructions when handling this material.

Issued by

Dan Libby

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