

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	CR-5A
Registration number	-
Synonyms	None.
Product code	800-0063
Issue date	19-August-2013
Version number	00
Revision date	19-August-2013
Supersedes date	N/A

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

Identified uses	Industrial Leak Sealant.
Uses advised against	None known.

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier	Team Industrial Services, Inc.
Address	Postbus 37 4380 AA Vlissingen 3237 The Netherlands
Telephone	+31 (0) 118 48 58 00
Fax	+31 (0) 118 48 58 86
e-mail	Not available.
Contact person	Not available.

1.4. Emergency telephone number +(61)-290372994, +1 703-527-3887

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

This preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification Carc. Cat. 3;R40, Xn;R20-48/20/22, Xi;R36/37/38, R42/43, R52/53

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

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

Health hazards

Acute toxicity, inhalation	Category 3	H331 - Toxic 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.
Carcinogenicity	Category 2	H351 - Suspected of causing 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 (Respiratory system, Kidney)	H373 - May cause damage to organs (Respiratory system, Kidney) through prolonged or repeated exposure.

Environmental hazards

Hazardous to the aquatic environment, long-term aquatic hazard	Category 3	H412 - Harmful to aquatic life with long lasting effects.
--	------------	---

Hazard summary

Physical hazards	Not classified for physical hazards.
Health hazards	Harmful by inhalation. Irritating to eyes, respiratory system and skin. Limited evidence of a carcinogenic effect. May cause sensitisation by inhalation and skin contact. Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
Environmental hazards	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Specific hazards	May cause sensitisation by skin contact. Irritating to skin. Irritating to eyes.
Main symptoms	Sensitisation. Wheezing. Difficulty in breathing. Irritation of eyes and mucous membranes. Skin irritation. Ingestion may cause irritation and malaise. Isocyanates may react with skin protein and moisture to cause itching, reddening, swelling, scaling or blistering.

2.2. Label elements

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

Contains: Dibutyl maleate, Methylenediphenyl diisocyanate, O-(p-isocyanatobenzyl)phenyl Isocyanate

Hazard pictograms



Signal word Danger

Hazard statements

H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H331 - Toxic 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 (Respiratory system, Kidney) through prolonged or repeated exposure.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P201 - Obtain special instructions before use.
P261 - Avoid breathing mist or vapour.
P285 - In case of inadequate ventilation wear respiratory protection.
P273 - Avoid release to the environment.

Response

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water.
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 victim to fresh air and keep at rest in a position comfortable for breathing.
P311 - Call a POISON CENTER/doctor.

Storage

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

Disposal

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information Contains isocyanates. May produce an allergic reaction.

2.3. Other hazards Not a PBT or vPvB substance or mixture.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Dibutyl maleate	<25	105-76-0 203-328-4	-	-	
Classification:	DSD: R43, N;R51/53				
	CLP: Skin Sens. 1;H317, Aquatic Chronic 2;H411				
Methylenediphenyl diisocyanate	5-15	101-68-8 202-966-0	-	615-005-00-9	
Classification:	DSD: Carc. Cat. 3;R40, Xn;R20-48/20, Xi;R36/37/38, R42/43				
	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, STOT RE 2;H373				

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
---------------	---	------------------	------------------------	-----------	-------

O-(p-isocyanatobenzyl)phenyl Isocyanate	5-15	5873-54-1 227-534-9	-	615-005-00-9	
--	------	------------------------	---	--------------	--

Classification: **DSD:** Carc. Cat. 3;R40, Xn;R20-48/20, Xi;R36/37/38, R42/43
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

DSD: Directive 67/548/EEC.
 CLP: Regulation No. 1272/2008.

Composition comments The full text for all R-phrases is displayed in section 16 of the SDS. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

SECTION 4: First aid measures

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

Inhalation Immediately remove from further exposure. Get immediate medical assistance. For those providing assistance, avoid exposure to yourself or others. Use adequate respiratory protection. Give supplemental oxygen, if available. If breathing has stopped, assist ventilation with a mechanical device or use mouth-to-mouth resuscitation.

Skin contact Remove contaminated clothing. Wash immediately with soap and water for at least 15 minutes. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Discard contaminated shoes and clothing.

Eye contact Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyelids wide apart. Get medical attention.

Ingestion Rinse mouth thoroughly. Do NOT induce vomiting. Get medical attention.

4.2. Most important symptoms and effects, both acute and delayed Irritation of eyes and mucous membranes. Skin irritation. Sensitisation. May cause damage to organs () through prolonged or repeated exposure. Wheezing. Difficulty in breathing. Ingestion may cause irritation and malaise. Isocyanates may react with skin protein and moisture to cause itching, reddening, swelling, scaling or blistering.

4.3. Indication of any immediate medical attention and special treatment needed The product irritates the respiratory tract and may trigger sensitisation of the skin and respiratory tract. Treatment of acute irritation or bronchial constriction is primarily symptomatic. Following severe exposure the patient should be kept under medical review for at least 48 hours.

SECTION 5: Firefighting measures

General fire hazards The product is not flammable. However: Will burn if strongly heated and when involved in fire.

5.1. Extinguishing media

Suitable extinguishing media Dry chemical powder. Carbon dioxide (CO₂). Foam.

Unsuitable extinguishing media None known.

5.2. Special hazards arising from the substance or mixture During fire, gases hazardous to health may be formed.

5.3. Advice for firefighters

Special protective equipment for firefighters Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.

Special fire fighting procedures Use standard firefighting procedures and consider the hazards of other involved materials. Cool material exposed to heat with water spray and remove it if no risk is involved.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Evacuate area. Keep upwind. No action shall be taken involving any personal risk or without suitable training. Avoid inhalation of vapours and contact with skin and eyes. For personal protection, see section 8 of the SDS.

For emergency responders Keep unnecessary personnel away.

6.2. Environmental precautions Avoid discharge into drains, water courses or onto the ground. Environmental manager must be informed of all major spillages.

6.3. Methods and material for containment and cleaning up

Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labelled container. Liquid spilled on the ground: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Wipe up with absorbent material (e.g. cloth, fleece). Do not use sawdust or other combustible material. Solid material: Pick up mechanically.
Should not be released into the environment. Never return spills in original containers for re-use. Prevent product from entering drains.

6.4. Reference to other sections

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

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Wear personal protective equipment. Wash hands thoroughly after handling. Observe good industrial hygiene practices. Mechanical ventilation may be required. Avoid inhalation of vapours and contact with skin and eyes. Persons already sensitised to diisocyanates may develop allergic reactions when using this product. Keep the workplace clean. Technical aids: Use disposable equipment (rags, brushes, spatulas, putty knives, etc.), if possible.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed original container. Store in a cool and well-ventilated place. Store away from incompatible materials. Do not store in open or unlabelled containers.

7.3. Specific end use(s)

Industrial Leak Sealant.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits

Austria. MAK List

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	Ceiling	0,1 mg/m ³
	MAK	0,01 ppm 0,05 mg/m ³ 0,005 ppm
O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)	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
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
Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,07 mg/m ³
	TWA	0,05 mg/m ³

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

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0,2 mg/m ³
		0,02 ppm

Czech Republic. OELs. Government Decree 361

Components	Type	Value
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
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
Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0,05 mg/m ³ 0,005 ppm
O-(p-isocyanatobenzyl)phenyl isocyanate (CAS 5873-54-1)	TWA	0,005 ppm

Finland. Workplace Exposure Limits

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,035 mg/m ³
O-(p-isocyanatobenzyl)phenyl isocyanate (CAS 5873-54-1)	STEL	0,035 mg/m ³

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

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	VLE	0,2 mg/m ³ 0,02 ppm
	VME	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
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
Methylenediphenyl diisocyanate (CAS 101-68-8)	AGW	0,05 mg/m ³	Fume and aerosol.
O-(p-isocyanatobenzyl)phenyl isocyanate (CAS 5873-54-1)	AGW	0,05 mg/m ³	

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

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,2 mg/m ³ 0,02 ppm
	TWA	0,2 mg/m ³ 0,02 ppm

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,05 mg/m ³

Hungary. OELs. Joint Decree on Chemical Safety of Workplaces

Components	Type	Value
	TWA	0,05 mg/m ³

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

Components	Type	Value
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
Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,07 mg/m ³
	TWA	0,02 mg/m ³
O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)	STEL	0,07 mg/m ³
	TWA	0,02 mg/m ³

Italy. OELs

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

Lithuania. OELs. Limit Values for Chemical Substances, General Requirements (Hygiene Norm HN 23:2007)

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	Ceiling	0,1 mg/m ³
	TWA	0,01 ppm
		0,05 mg/m ³ 0,005 ppm
O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)	Ceiling	0,01 ppm
	TWA	0,005 ppm

Norway. Administrative Norms for Contaminants in the Workplace

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,01 ppm
	TLV	0,05 mg/m ³
		0,005 ppm
O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)	STEL	0,01 ppm
	TLV	0,005 ppm

Poland. MACs. Minister of Labour and Social Policy Regarding Maximum Allowable Concentrations and Intensities in Working Environment

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,09 mg/m ³
	TWA	0,03 mg/m ³
O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)	STEL	0,09 mg/m ³
	TWA	0,03 mg/m ³

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

Components	Type	Value
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
Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,15 mg/m3
O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)	STEL	0,2 mg/m3

Slovakia. OELs. Decree of the government of the Slovak Republic concerning protection of health in work with chemical agents

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0,03 mg/m3 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
Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0,05 mg/m3

Spain. Occupational Exposure Limits

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	TWA	0,052 mg/m3 0,005 ppm

Sweden. Occupational Exposure Limit Values

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	Ceiling	0,05 mg/m3
	TWA	0,005 ppm 0,03 mg/m3 0,002 ppm
O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)	Ceiling	0,005 ppm
	TWA	0,002 ppm

Switzerland. SUVA Grenzwerte am Arbeitsplatz

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,02 mg/m3
	TWA	0,02 mg/m3
O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)	STEL	0,02 mg/m3
	TWA	0,02 mg/m3

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Methylenediphenyl diisocyanate (CAS 101-68-8)	STEL	0,07 mg/m3
	TWA	0,02 mg/m3

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)	STEL	0,07 mg/m ³
	TWA	0,02 mg/m ³

Biological limit values

Germany. TRGS 903, BAT List (Biological Limit Values)

Components	Value	Determinant	Specimen	Sampling time
Methylenediphenyl diisocyanate (CAS 101-68-8)	10 µg/g	4,4-Diaminodiphenylmethane	Creatinine in urine	*

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

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

Components	Value	Specimen	Sampling time
Methylenediphenyl diisocyanate (CAS 101-68-8)	10 µg/g	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 General ventilation normally adequate. Ensure adequate ventilation, especially in confined areas. Provide easy access to water supply and eye wash facilities. Mix and prepare in a place with efficient exhaust ventilation.

Individual protection measures, such as personal protective equipment

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

Eye/face protection Wear approved chemical safety goggles. Use face shield in case of splash risk.

Skin protection

- Hand protection Wear appropriate chemical resistant gloves. Use disposable gloves protecting against isocyanates along with cotton gloves closest to the skin. Suitable gloves can be recommended by the glove supplier.

- Other Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure. Contact chemical protective clothing manufacturer for specific information.

Respiratory protection In case of inadequate ventilation or risk of inhalation of vapours, use suitable respiratory equipment. Use respiratory equipment with combination filter, type A2/P2.

Thermal hazards Wear appropriate thermal protective clothing, when necessary.

Hygiene measures 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. Private clothes and working clothes should be kept separately. Personal protective equipment should not be worn during lunch breaks.

Environmental exposure controls Environmental manager must be informed of all major spillages.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance Milky white to yellow liquid.

Physical state Liquid.

Form Liquid.

Colour Milky white to yellow.

Odour Slightly musty.

Odour threshold Not available.

pH Neutral

Melting point/freezing point	< -20 °C (< -4 °F)
Initial boiling point and boiling range	Not available.
Flash point	> 130,0 °C (> 266,0 °F)
Evaporation rate	Not available.
Flammability (solid, gas)	Non flammable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	0 mm Hg @ (40°C)
Vapour density	Not available.
Relative density	1,05 - 1,1 (Water=1)
Solubility(ies)	Insoluble in water.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	< 100 °C (< 212 °F)
Viscosity	Not available.
Explosive properties	Not available.
Oxidizing properties	Not available.
9.2. Other information	
Bulk density	8,76 - 9,3 lb/gal

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	Contact with moisture or temperatures above 350° F (177° C) will cause polymerization.
10.3. Possibility of hazardous reactions	Will polymerize with heat or moisture.
10.4. Conditions to avoid	Exposure to heat and contact with sources of ignition. Moisture. Contact with incompatible materials.
10.5. Incompatible materials	Amines. Strong bases. Alcohols. Copper and copper alloys. Liquid chlorine. Water.
10.6. Hazardous decomposition products	During combustion: Carbon oxides. Hydrogen cyanide. Nitrogen oxides. Isocyanates

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure	
Ingestion	Ingestion may cause irritation and malaise.
Inhalation	May cause respiratory tract irritation. May cause allergic respiratory reaction.
Skin contact	Causes skin irritation. May cause sensitisation by skin contact.
Eye contact	Causes serious eye irritation.
Symptoms	Sensitisation. Wheezing. Difficulty in breathing. Irritation of eyes and mucous membranes. Skin irritation. Ingestion may cause irritation and malaise. Isocyanates may react with skin protein and moisture to cause itching, reddening, swelling, scaling or blistering.

11.1. Information on toxicological effects

Acute toxicity Toxic if inhaled. May cause allergic respiratory reaction.

Components	Species	Test results
Methylenediphenyl diisocyanate (CAS 101-68-8)		
Acute		
<i>Inhalation</i>		
LC50	Rat	> 2,24 mg/l, 1 Hours

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	Not classified.
Carcinogenicity	Possible cancer hazard - may cause cancer based on animal data.

IARC Monographs. Overall Evaluation of Carcinogenicity

Methylenediphenyl diisocyanate (CAS 101-68-8)	3 Not classifiable as to carcinogenicity to humans.
O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)	3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity	Not classified.
Specific target organ toxicity - single exposure	May cause respiratory tract irritation.
Specific target organ toxicity - repeated exposure	May cause damage to organs through prolonged or repeated exposure: Respiratory system. Kidneys.
Aspiration hazard	Not classified.
Mixture versus substance information	Not available
Other information	Not available.

SECTION 12: Ecological information

12.1. Toxicity	The product contains a substance which may be harmful to aquatic organisms and may cause long-term adverse effects in the aquatic environment.
12.2. Persistence and degradability	No data available.
12.3. Bioaccumulative potential	The product is not expected to bioaccumulate.
Partition coefficient n-octanol/water (log Kow)	Not available.
Bioconcentration factor (BCF)	Not available.
12.4. Mobility in soil	The product is non-volatile. The product reacts with water to form a solid insoluble reaction product which is non-degradable, according to information available.
12.5. Results of PBT and vPvB assessment	Not a PBT or vPvB substance or mixture.
12.6. Other adverse effects	Harmful to aquatic life with long lasting effects.

SECTION 13: Disposal considerations

13.1. Waste treatment methods	
Residual waste	Dispose of in accordance with local regulations.
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied.
EU waste code	Spillage/Used Product: EWC-code: 080409* Contaminated packaging: EWC-code: 150110* Waste codes should be assigned by the user based on the application for which the product was used.
Disposal methods/information	Dispose in accordance with all applicable regulations. Do not allow runoff to sewer, waterway or ground.

SECTION 14: Transport information

ADR

Not regulated as dangerous goods.

RID

14.1. UN number	UN3082
14.2. UN proper shipping name	Environmentally hazardous substance, liquid, n.o.s.
14.3. Transport hazard class(es)	9
Subsidiary class(es)	-
14.4. Packing group	III
14.5. Environmental hazards	No
Labels required	9

14.6. Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

ADN

Not regulated as dangerous goods.

IATA

14.1. UN number UN3082
14.2. UN proper shipping name Environmentally hazardous substance, liquid, n.o.s. (Methylenediphenyl diisocyanate)
14.3. Transport hazard class(es) 9
Subsidiary class(es) -
14.4. Packing group III
14.5. Environmental hazards Not available.
Labels required Not available.
ERG code 9L
14.6. Special precautions for user Not available.

IMDG

14.1. UN number UN3082
14.2. UN proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Methylenediphenyl diisocyanate)
14.3. Transport hazard class(es) 9
Subsidiary class(es) -
14.4. Packing group III
14.5. Environmental hazards
Marine pollutant Yes
Labels required Not available.
EmS F-A, S-F
14.6. Special precautions for user Not available.

General Read safety instructions, SDS and emergency procedures before handling.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

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
Not listed.
Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II
Not listed.
Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended
Not listed.
Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended
Not listed.
Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended
Not listed.
Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended
Not listed.
Regulation (EC) No. 689/2008 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
Not listed.
Regulation (EC) No. 1907/2006, REACH Article 59(1) Candidate List as currently published by ECHA
Not listed.

Authorisations

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

Not listed.

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

Not regulated.

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

Methylenediphenyl diisocyanate (CAS 101-68-8)

O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)

Other EU regulations

Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances

Not regulated.

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

Methylenediphenyl diisocyanate (CAS 101-68-8)

O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)

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

Methylenediphenyl diisocyanate (CAS 101-68-8)

O-(p-isocyanatobenzyl)phenyl Isocyanate (CAS 5873-54-1)

Other regulations

Young people under 18 years old are not allowed to work with this product according to the EU Directive 94/33/EC on the protection of young people at work. Pregnant women should not work with the product, if there is the least risk of exposure. The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended and respective national laws implementing EC directives. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006 as amended.

National regulations

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

DNEL: Derived No-Effect Level.
PNEC: Predicted No-Effect Concentration. PBT: Persistent, bioaccumulative and toxic. vPvB: Very Persistent and very Bioaccumulative. DSD: Directive 67/548/EEC.
CLP: Regulation No. 1272/2008.

References

ESIS (European chemical Substances Information System)
HSDB® - Hazardous Substances Data Bank
IARC Monographs. Overall Evaluation of Carcinogenicity

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

R20 Harmful by inhalation.
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.
R43 May cause sensitisation by skin contact.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R48/20/22 Harmful: danger of serious damage to health by prolonged exposure through inhalation and if swallowed.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
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.
H411 Toxic to aquatic life with long lasting effects.

Training information

Follow training instructions when handling this material.

Disclaimer

The information in the sheet was written based on the best knowledge and experience currently available.