Created: 13 January 2024

SAFETY DATA SHEET

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

1.1 Product identifier

Product Name: 2 Part Polyurethane MDI Compound Part B: Hardener
Chemical Name: Isocyanic acid, polymethylenepolyphenylene ester (P-MDI)
Synonyms: Polymethylene polyphenyl isocyanate
CAS No.: 9016-87-9

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

Use of the substance/mixture: Polyurethane resin compounds
Use advised against: No information available

1.3 Details of the supplier of the safety data sheet

Name of Supplier: Sicame UK Limited
Address of Supplier: Unit 4, London Medway Commercial Park
James Swallow Way
Hoo
Rochester, Kent
ME3 9GX
UK
Telephone: 01322 44 4500
Email: sales@sicame.co.uk

1.4 Emergency telephone number

Emergency Telephone: Sales Department
01322 44 4500
24 hours / 7 days a week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]: 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

Additional information: For full text of Hazard- and EU Hazard-statements: see section 16

2.2 Label elements

Signal Word: Danger

Hazard statements

H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H332 - Harmful if inhaled.
H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 - May cause respiratory irritation.
H351 - Suspected of causing cancer.
H373 - May cause damage to organs (respiratory system) through prolonged or repeated exposure (inhalation)

SECTION 2: Hazards identification (....)

Precautionary statements

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 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.
P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
P501 - Dispose of contents/container to an approved hazardous/special waste disposal facility in accordance with local and national regulations

Supplemental Hazard information (EU)

EUH204 - Contains isocyanates. May produce an allergic reaction

For supply to the general public, suppliers shall ensure before the placing on the market that the packaging is marked visibly, legibly and indelibly as follows:
'— Persons already sensitised to diisocyanates may develop allergic reactions when using this product.
— Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.
— This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.'

For industrial and professional use(s), the following statement must be placed on the packaging, in a manner that is visibly distinct from the rest of the label information: "As from 24 August 2023 adequate training is required before industrial or professional use".

2.3 Other hazards

Not a PBT according to REACH Annex XIII

Not a vPvB according to REACH Annex XIII

Has not been identified as having endocrine disrupting properties

Persons previously sensitised to isocyanates may develop a cross-sensitisation reaction to other isocyanates. Avoid any contact with the substance in case of known allergy to isocyanates, skin complaints, hypersensitivity reactions, chronic respiratory disease, asthmatic attacks or bronchial attacks

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical Name	Conc.	CAS No.	Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]	SCL/ M-Factor/ ATE	REACH Registration Number	WEL/ OEL
Isocyanic acid, polymethylenepolyphenylene ester	100%	9016-87-9	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	-	-	Yes

3.2 Mixtures

Not applicable

SECTION 4: First aid measures

4.1 Description of first aid measures

SECTION 4: First aid measures (....)

Rescuers should put on approved personal protective equipment (PPE) before administering first aid

Rescuers should take suitable precautions to avoid becoming casualties themselves

Contact with eyes

If substance has got into eyes, immediately wash out with plenty of water for at least 15 minutes
Irrigate eyes thoroughly whilst lifting eyelids
Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Contact with skin

Remove contaminated clothing immediately and drench affected skin with plenty of water. Then wash with soap and water
Contaminated clothing should be laundered before reuse
If skin irritation or rash occurs: Get medical advice/attention.

Ingestion

If swallowed, rinse mouth with water (only if the person is conscious)
Give 200-300mls (half pint) water to drink
Never give anything by mouth to an unconscious person
Get medical advice/attention.

Inhalation

If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
Keep warm and at rest, in a half upright position. Loosen clothing
Apply artificial respiration only if patient is not breathing
If breathing is difficult, oxygen should be given by a trained person
Get immediate medical advice/attention.

4.2 Most important symptoms and effects, both acute and delayed

Contact with eyes

Causes redness and irritation

Contact with skin

Causes redness and irritation
May cause an allergic skin reaction.

Ingestion

May cause gastro-intestinal irritation
May cause stomach pain
May cause nausea/vomiting
May cause diarrhoea

Inhalation

Harmful if inhaled.
May cause damage to the lungs through prolonged or repeated exposure
May cause respiratory irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician: 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

Use of a glucocorticoid inhalation spray may be needed

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media: Foam, CO_2 or dry powder. Water spray may be used if no other alternatives are available and then in copious quantities. Reaction between water and hot isocyanate may be vigorous.

Unsuitable extinguishing media: High volume water jet

5.2 Special hazards arising from the substance or mixture

In a fire or if heated, a pressure increase will occur and the container may burst

Gives off irritating or toxic fumes (or gases) in a fire.

Decomposition products may include carbon oxides (CO, CO_2) nitrogen oxides (NO, NO_2 etc.) hydrocarbons, isocyanate vapours and hydrogen cyanide

5.3 Advice for firefighters

Move containers from fire area if this can be done without risk

Keep container(s) exposed to fire cool, by spraying with water

Collect contaminated fire extinguishing water separately. This MUST not be discharged into drains. Prevent fire extinguishing water from contaminating surface or ground water.

Special protective equipment: Wear self-contained breathing apparatus (SCBA). Wear full protective clothing including chemical protection suit.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

No action shall be taken involving any personal risk or without suitable training

Only trained and authorised personnel should carry out emergency response

Personal precautions for non-emergency personnel: Evacuate the area and keep personnel upwind; Do not breathe spray/mists; Do not get in eyes, on skin, or on clothing; Wash thoroughly after handling.

Personal precautions for emergency responders: Do not breathe spray/mists; Wear suitable respiratory protection; Wear protective clothing as per section 8; Wash thoroughly after dealing with spillage

6.2 Environmental precautions

Do not empty into drains

Do not allow to enter public sewers and watercourses

Do not allow to penetrate the ground/soil.

6.3 Methods and material for containment and cleaning up

Evacuate the area and keep personnel upwind

Stop leak if safe to do so.

Absorb spillages onto sand, earth or any suitable absorbent material. Leave to react for at least 30 minutes.

Do not absorb spillage in sawdust or other combustible material

Shovel into open-top drums for further decontamination

Remove contaminated material to safe location for subsequent disposal

Ventilate the area and wash spill site after material pick-up is complete

SECTION 6: Accidental release measures (....)

Test atmosphere for MDI vapour

Neutralise small spillages with decontaminant. The compositions of liquid decontaminants are: (percentages by weight or volume) :

Decontaminant 1 : *- sodium carbonate : 5 - 10 % *- liquid detergent : 0.2 - 2 % *- water : to make up to 100 %
Decontaminant 1 reacts slower with diisocyanates but is more environmentally friendly than decontaminant 2.

Decontaminant 2 : *- concentrated ammonia solution : 3 - 8 % *- liquid detergent : 0.2 - 2 % *- water: to make up to 100 %
Decontaminant 2 contains ammonia. Ammonia presents health hazards.

6.4 Reference to other sections

See section(s): 7, 8 &13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Obtain special instructions before use.

See information supplied by manufacturer

Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not use this product.

Health surveillance, including lung function, is recommended for long term and repeated use of isocyanates.

Ensure adequate ventilation

Use only outdoors or in a well-ventilated area.

This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.

Provide sufficient air exchange and/or exhaust in work rooms.

The efficiency of the ventilation system must be monitored regularly because of the possibility of blockage.

Do not breathe dust/fume/gas/mist/vapours/spray.

Products freshly manufactured from isocyanates can contain incompletely reacted isocyanates and other dangerous substances, e.g. primary aromatic amines. Industrial cleaning with aprotic polar solvents (meeting the IUPAC definition) may lead to formation of hazardous primary aromatic amine (> 0,1%). See Section 11.

Do not eat, drink or smoke when using this product.

Do not get in eyes, on skin, or on clothing.

Wear protective clothing as per section 8

Wash thoroughly after handling.

Contaminated clothing should be laundered before reuse

Ensure eyewash stations and safety showers are nearby

7.2 Conditions for safe storage, including any incompatibilities

Store locked up.

Store in a cool, dry well-ventilated place. Keep container tightly closed.

Opened containers should be carefully resealed and stored in an upright position

SECTION 7: Handling and storage (....)

Keep away from direct sunlight

Store at 10 - 25 °C

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Keep away from food, drink and animal feedingstuffs

Keep away from water

Incompatible with acids, alkalis (bases), alcohols, amines

7.3 Specific end use(s)

Polyurethane resin compounds

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace exposure - Measurement of exposure by inhalation to chemical agents - Strategy for testing compliance with occupational exposure limit values). European Standard EN 14042 (Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents). European Standard EN 482 (Workplace exposure. General requirements for the performance of procedures for the measurement of chemical agents).
Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

BMGV (Biological Monitoring Guidance Value) (UK) for Isocyanates (applies to HDI, IPDI, TDI and MDI): 1 µmol isocyanate-derived diamine/mol creatinine in urine. Sampling Time: At the end of the period of exposure

4,4'-methylenediphenyl diisocyanate

WEL (long term) 0.02 mg/m³ (UK. Isocyanates, all, as –NCO. Sen - Capable of causing occupational asthma)
WEL (long term) 0.07 mg/m³ (UK. Isocyanates, all, as –NCO. Sen - Capable of causing occupational asthma)
DNEL (inhalational) 50 µg/m³ Industry, Long Term, Local Effects
DNEL (inhalational) 100 µg/m³ Industry, Acute/Short Term, Local Effects
DNEL (inhalational) 25 µg/m³ Consumer, Long Term, Local Effects
DNEL (inhalational) 50 µg/m³ Consumer, Acute/Short Term, Local Effects
PNEC aqua (freshwater) 3.7 µg/L
PNEC aqua (intermittent releases, freshwater) 37 µg/L
PNEC aqua (marine water) 370 ng/L
PNEC sediment (freshwater) 11.7 mg/kg
PNEC sediment (marine water) 1.17 mg/kg
PNEC terrestrial (soil) 2.33 mg/kg

Isocyanic acid, polymethylenepolyphenylene ester

WEL (long term) 0.02 mg/m³ (UK. Isocyanates, all, as –NCO. Sen - Capable of causing occupational asthma)
WEL (long term) 0.07 mg/m³ (UK. Isocyanates, all, as –NCO. Sen - Capable of causing occupational asthma)

8.2 Exposure controls

Selection and use of personal protective equipment should be based on a risk assessment of exposure potential

SECTION 8: Exposure controls/personal protection (....)

Engineering controls

Ensure adequate ventilation
Engineering controls should be provided which maintain airborne concentrations below the relevant guidelines
Provide sufficient air exchange (3 - 5 exchanges per hour)
The efficiency of the ventilation system must be monitored regularly because of the possibility of blockage.

Respiratory protection

This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.

Skin protection

Wear chemical resistant clothing approved to standard EN 13034 or BS EN 14605
Wear protective gloves. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and standard EN 374.
The selection of a suitable glove depends on work conditions and whether the product is present on its own or in combination with other substances. Breakthrough time is dependent on the characteristics of the brand of glove used and the supplier should be consulted.
Neoprene or nitrile rubber are recommended

Glove material: Nitrile rubber
Thickness: 0.11 mm
Breakthrough time: 480 minutes
Reference: ECHA

Before removing gloves clean them with soap and water
Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product.

Eye/face protection

Wear safety glasses with side-shields approved to standard EN 166

Thermal hazards

Not applicable

Hygiene measures

Use good personal hygiene practices
Do not eat, drink or smoke when using this product.
Wash thoroughly after handling.
Contaminated clothing should be laundered before reuse
Ensure eyewash stations and safety showers are nearby

Environmental exposure controls

Do not empty into drains
Do not allow to penetrate the ground/soil.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Liquid
Colour:	Brown
Odour:	Earthy, musty
Melting point/freezing point:	< 10 °C
Boiling point or initial boiling point and boiling range:	330 °C (1,013 mbar)
Flammability:	Not flammable. Ignition temperature: > 600 °C
Lower and upper explosion limit:	The lower explosion point may be 5 - 15 °C below the flash point.

SECTION 9: Physical and chemical properties (....)

Flash point:	> 204 °C
Auto-ignition temperature:	Product is not self-igniting
Decomposition temperature:	> 230 °C
pH:	Not applicable
Kinematic viscosity:	Dynamic 190 - 250 mPa.s (25 °C)
Solubility:	Hydrolyzes to form water-insoluble compounds.

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

Vapour pressure:	< 0.01 Pa @ 25 °C
Density and/or relative density:	Approx. 1.22 @ 20 °C
Relative vapour density:	8.5 @ 20 °C
Particle characteristics:	Not applicable

9.2 Other information

No information available

SECTION 10: Stability and reactivity

10.1 Reactivity

No hazard expected under normal conditions of use

Reacts with small amounts of water

10.2 Chemical stability

Stable under normal conditions

10.3 Possibility of hazardous reactions

Reacts with water, with formation of carbon dioxide. Risk of bursting.

Reacts with alcohols, acids, alkalis, amines.

Risk of exothermic reaction.

Risk of polymerization.

Contact with certain rubbers and plastics can cause brittleness of the substance/product with subsequent loss in strength.

10.4 Conditions to avoid

Avoid contact with moisture

Keep away from heat and direct sunlight.

Avoid curing large quantities of material to prevent a premature reaction (exotherm) with production of intense heat and smoke.

10.5 Incompatible materials

Incompatible with acids, alkalis (bases), alcohols, amines

10.6 Hazardous decomposition products

Decomposition products may include carbon oxides (CO, CO_2) nitrogen oxides (NO, NO_2 etc.) hydrocarbons, isocyanate vapours and hydrogen cyanide

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

SECTION 11: Toxicological information (....)

Acute Toxicity

Harmful if inhaled.
The substance from the isocyanate substance class has been tested in a form (respirable aerosol) that is different from the forms in which the product is placed on the market and used. Therefore, the test result is not adequate for the purpose of classification and labelling of the product. Based on expert judgement and available data, a modified classification and labeling for acute inhalation toxicity is justified. The generation of a respirable aerosol must be prevented.

Substances

Chemical Name	LD_{50} (oral, rat)	LC_{50} (inhalation, rat)	LD_{50} (dermal, rabbit)
Isocyanic acid, polymethylenepolyphenylene ester	No data available	(4 h) 0.493 mg/L (as aerosol)	No data available

Skin corrosion/irritation

Causes skin irritation.

Substances

Chemical Name	Irritation/corrosion
Isocyanic acid, polymethylenepolyphenylene ester	Adverse effect observed (irritating)

Serious eye damage/irritation

Causes serious eye irritation.

Substances

Chemical Name	Irritation/corrosion
Isocyanic acid, polymethylenepolyphenylene ester	Adverse effect observed (irritating)

Respiratory or skin sensitisation

May cause an allergic skin reaction.
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Substances

Chemical Name	Skin sensitisation	Respiratory sensitisation
Isocyanic acid, polymethylenepolyphenylene ester	Adverse effect observed (sensitising)	Adverse effect observed (sensitising)

Germ cell mutagenicity

Based on the available data, the classification criteria are not met

Substances

Chemical Name	Toxicity - In Vitro	Toxicity - In Vivo
Isocyanic acid, polymethylenepolyphenylene ester	No data available	No data available

SECTION 11: Toxicological information (....)

Carcinogenicity

Suspected of causing cancer.
Polymethylene polyphenyl isocyanate is classified by IARC as Group 3 (Not classifiable as to its carcinogenicity to humans)
Industrial cleaning with aprotic polar solvents (meeting the IUPAC definition) may lead to formation of hazardous primary aromatic amine (> 0,1%). Primary aromatic amines are chemicals that are regarded as potenttially carcinogenic for humans based on animal testing. Some of these chemicals are known human carcinogens. No adverse health effects are anticipated if recommended personal protective equipment and industrial hygiene practices are used.

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
Isocyanic acid, polymethylenepolyphenylene ester	No data available	No data available	No data available

Reproductive toxicity

Based on the available data, the classification criteria are not met

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
Isocyanic acid, polymethylenepolyphenylene ester	No data available	No data available	No data available

Specific target organ toxicity (STOT) - single exposure

May cause respiratory irritation.

Substances

Chemical Name	Route	Remarks
Isocyanic acid, polymethylenepolyphenylene ester	Respiratory	Adverse effect observed (irritating)

Specific target organ toxicity (STOT) - repeated exposure

May cause damage to organs (respiratory system) through prolonged or repeated exposure (inhalation)
The substance may cause damage to the lung even after repeated inhalation of low doses, as shown in animal studies.

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rat)
Isocyanic acid, polymethylenepolyphenylene ester	No data available	No data available	No data available

Aspiration hazard

Based on available data, the classification criteria are not met

Contact with eyes

Causes redness and irritation

SECTION 11: Toxicological information (....)

Contact with skin

Causes redness and irritation
May cause an allergic skin reaction.

Ingestion

May cause gastro-intestinal irritation
May cause stomach pain
May cause nausea/vomiting
May cause diarrhoea

Inhalation

Harmful if inhaled.
May cause damage to the lungs through prolonged or repeated exposure
May cause respiratory irritation
May cause allergy or asthma symptoms or breathing difficulties if inhaled.

11.2 Information on other hazards

Has not been identified as having endocrine disrupting properties

SECTION 12: Ecological information

12.1 Toxicity

Based on the available data, the classification criteria are not met

Substances

Chemical Name	LC_{50} (fish)	EC_{50} (aquatic invertebrates)	EC_{50} (aquatic algae)
Isocyanic acid, polymethylenepolyphenylene ester	LC0 (4 days) > 1 000 mg/L	EC0 (24 h) > 500 mg/L	EC0 (72 h) 1 640 mg/L

12.2 Persistence and degradability

Not readily biodegradable

Substances

Chemical Name	Biodegradation
Isocyanic acid, polymethylenepolyphenylene ester	< 10 % BOD of the ThOD (28 d) (OECD Guideline 302 C) (aerobic, activated sludge) Under test conditions no biodegradation observed

12.3 Bioaccumulative potential

Low bioaccumulation potential

Substances

Chemical Name	Bioconcentration Factor (BCF)	Log Kow
Isocyanic acid, polymethylenepolyphenylene ester	Does not significantly accumulate in organisms	No data available

12.4 Mobility in soil

Adsorption to solid soil phase is not expected

SECTION 12: Ecological information (....)

Substances

Chemical Name	Adsorption/desorption
Isocyanic acid, polymethylenepolyphenylene ester	Low potential for adsorption

12.5 Results of PBT and vPvB assessment

Not a PBT according to REACH Annex XIII

Not a vPvB according to REACH Annex XIII

12.6 Endocrine disrupting properties

Has not been identified as having endocrine disrupting properties

12.7 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1 Waste treatment methods

This material and its container must be disposed of as hazardous waste

Disposal should be in accordance with local, state or national legislation

Dispose of isocyanate waste in dry containers and never mix together with other wastes (reaction, dangerous pressure build up)

Incineration by an approved method could be considered

Dispose of contents/container to an authorised waste collection point

Do not reuse empty containers without commercial cleaning or reconditioning

Do not pierce or burn container, even after use

13.2 Classification

The waste must be identified according to the List of Wastes (2000/532/EC)

Hazardous Property Code(s): HP 4 Irritant; HP 5 Specific Target Organ Toxicity (STOT)/Aspiration Toxicity; HP 6 Acute Toxicity; HP 7 Carcinogenic; HP 13 Sensitising

SECTION 14: Transport information

Not classified as hazardous for transport

14.1 UN number or ID number

UN No.: Not applicable

14.2 UN proper shipping name

Proper Shipping Name: Not applicable

14.3 Transport hazard class(es)

Hazard Class: Not applicable

14.4 Packing group

Packing Group: Not applicable

SECTION 14: Transport information (....)

14.5 Environmental hazards

Not applicable

14.6 Special precautions for user

No information available

14.7 Maritime transport in bulk according to IMO instruments

Not applicable

14.8 Road/Rail (ADR/RID)

Proper Shipping Name:	Not applicable
ADR UN No.:	Not applicable
ADR Hazard Class:	Not applicable
ADR Packing Group:	Not applicable
Tunnel Code:	Not applicable

14.9 Sea (IMDG)

Proper Shipping Name:	Not applicable
IMDG UN No.:	Not applicable
IMDG Hazard Class:	Not applicable
IMDG Packing Group:	Not applicable

14.10 Air (ICAO/IATA)

Proper Shipping Name:	Not applicable
ICAO UN No.:	Not applicable
ICAO Hazard Class:	Not applicable
ICAO Packing Group:	Not applicable

SECTION 15: Regulatory information

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

This safety data sheet is provided in compliance with REACH Regulation (EC) No 1907/2006 (as amended by Regulation (EU) 2020/878) and UK REACH

The GB Classification, Labelling and Packaging Regulation (GB CLP) applies in Great Britain

Regulation (EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures (CLP Regulation) applies in Europe

Seveso III Directive (2012/18/EU, Dangerous Substances in Annex I: Not applicable

Restrictions on use according to Annex XVII to REACH Regulation: Entry 56 & Entry 74

Entry 56 - Methylenediphenyl diisocyanate (MDI):

Shall not be placed on the market after 27 December 2010, as a constituent of mixtures in concentrations equal to or greater than 0.1% by weight of MDI for supply to the general public, unless suppliers shall ensure before the placing on the market that the packaging:
(a) contains protective gloves which comply with the requirements of Council Directive 89/686/EEC (*);
(b) is marked visibly, legibly and indelibly as follows, and without prejudice to other Community legislation concerning the classification, packaging and labelling of substances and mixtures:
'— Persons already sensitised to diisocyanates may develop allergic reactions when using this product.
— Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product.
— This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.'

Entry 74 - Diisocyanates, O = C=N-R-N = C=O, with R an aliphatic or aromatic hydrocarbon unit of

SECTION 15: Regulatory information (....)

unspecified length:

1. Shall not be used as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 August 2023, unless:
(a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or
(b) the employer or self-employed ensures that industrial or professional user(s) have successfully completed training on the safe use of diisocyanates prior to the use of the substance(s) or mixture(s).
2. Shall not be placed on the market as substances on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) after 24 February 2022, unless:
(a) the concentration of diisocyanates individually and in combination is less than 0,1 % by weight, or
(b) the supplier ensures that the recipient of the substance(s) or mixture(s) is provided with information on the requirements referred to in point (b) of paragraph 1 and the following statement is placed on the packaging, in a manner that is visibly distinct from the rest of the label information: “As from 24 August 2023 adequate training is required before industrial or professional use”.
3. For the purpose of this entry “industrial and professional user(s)” means any worker or self-employed worker handling diisocyanates on their own, as a constituent in other substances or in mixtures for industrial and professional use(s) or supervising these tasks.
4. The training referred to in point (b) of paragraph 1 shall include the instructions for the control of dermal and inhalation exposure to diisocyanates at the workplace without prejudice to any national occupational exposure limit value or other appropriate risk management measures at national level. Such training shall be conducted by an expert on occupational safety and health with competence acquired by relevant vocational training. That training shall cover as a minimum:
(a) the training elements in point (a) of paragraph 5 for all industrial and professional use(s).
(b) the training elements in points (a) and (b) of paragraph 5 for the following uses:
— handling open mixtures at ambient temperature (including foam tunnels);
— spraying in a ventilated booth;
— application by roller;
— application by brush;
— application by dipping and pouring;
— mechanical post treatment (e.g. cutting) of not fully cured articles which are not warm anymore;
— cleaning and waste;
— any other uses with similar exposure through the dermal and/or inhalation route;
(c) the training elements in points (a), (b) and (c) of paragraph 5 for the following uses:
— handling incompletely cured articles (e.g. freshly cured, still warm);
— foundry applications;
— maintenance and repair that needs access to equipment;
— open handling of warm or hot formulations (> 45 °C);
— spraying in open air, with limited or only natural ventilation (includes large industry working halls) and spraying with high energy (e.g. foams, elastomers);
— and any other uses with similar exposure through the dermal and/or inhalation route.
5. Training elements:
(a) general training, including on-line training, on:
— chemistry of diisocyanates;
— toxicity hazards (including acute toxicity);
— exposure to diisocyanates;
— occupational exposure limit values;
— how sensitisation can develop;
— odour as indication of hazard;
— importance of volatility for risk;
— viscosity, temperature, and molecular weight of diisocyanates;
— personal hygiene;
— personal protective equipment needed, including practical instructions for its correct use and its limitations;
— risk of dermal contact and inhalation exposure;
— risk in relation to application process used;
— skin and inhalation protection scheme;
— ventilation;
— cleaning, leakages, maintenance;
— discarding empty packaging;
— protection of bystanders;
— identification of critical handling stages;
— specific national code systems (if applicable);
— behaviour-based safety;
— certification or documented proof that training has been successfully completed

SECTION 15: Regulatory information (....)

(b) intermediate level training, including on-line training, on:
— additional behaviour-based aspects;
— maintenance;
— management of change;
— evaluation of existing safety instructions;
— risk in relation to application process used;
— certification or documented proof that training has been successfully completed
(c) advanced training, including on-line training, on:
— any additional certification needed for the specific uses covered;
— spraying outside a spraying booth;
— open handling of hot or warm formulations (> 45 °C);
— certification or documented proof that training has been successfully completed
6. The training shall comply with the provisions set by the Member State in which the industrial or professional user(s) operate. Member States may implement or continue to apply their own national requirements for the use of the substance(s) or mixture(s), as long as the minimum requirements set out in paragraphs 4 and 5 are met.
7. The supplier referred to in point (b) of paragraph 2 shall ensure that the recipient is provided with training material and courses pursuant to paragraphs 4 and 5 in the official language(s) of the Member State(s) where the substance(s) or mixture(s) are supplied. The training shall take into consideration the specificity of the products supplied, including composition, packaging, and design.
8. The employer or self-employed shall document the successful completion of the training referred to in paragraphs 4 and 5. The training shall be renewed at least every five years.
9. Member States shall include in their reports pursuant to Article 117(1) the following information:
(a) any established training requirements and other risk management measures related to the industrial and professional uses of diisocyanates foreseen in national law;
(b) the number of cases of reported and recognised occupational asthma and occupational respiratory and dermal diseases in relation to diisocyanates;
(c) national exposure limits for diisocyanates, if there are any;
(d) information about enforcement activities related to this restriction.
10. This restriction shall apply without prejudice to other Union legislation on the protection of safety and health of workers at the workplace.

15.2 Chemical safety assessment

No information available

SECTION 16: Other information

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

Sources of data: Information from company data, published literature and supplier safety data sheets

Workers must be informed of the presence of hazardous ingredients and trained in the proper use and handling of this product as required under applicable regulations. See also the requirements of REACH Restriction Entry 74

Text not given with phrase codes where they are used elsewhere in this safety data sheet:

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

SECTION 16: Other information (....)

H373: May cause damage to organs through prolonged or repeated exposure

Acronyms

ATE: Acute Toxicity Estimate

CAS: Chemical Abstracts Service

DNEL: Derived No-Effect Level

EC: European Community

EC_{50}: Effective Concentration, 50%

GHS: Globally Harmonised System

IARC: International Agency for Research on Cancer

IOELV: Indicative Occupational Exposure Limit Value

LC_{50}: Lethal Concentration, 50%

LD_{50}: Lethal Dose, 50%

NOAEC: No Observed Adverse Effect Concentration

NOAEL: No Observed Adverse Effect Level

OEL: Occupational Exposure Limit

PBT: Persistent, Bioaccumulative and Toxic

PNEC: Predicted No-Effect Concentration

REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals

SCL: Specific Concentration Limit

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

WEL: Workplace Exposure Limit