Pro Adhesive

November 2023 - Version 4

Section 1 - Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Product name **Pro Adhesive**

Contains Methylenediphenyl diisocyanate
4,4'-Methylenediphenyl diisocyanate

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

Use of the substance/mixture Bonding of gypsum overlay boards

Uses advised against Uses other than those identified are not recommended

1.3 Details of the supplier of the safety data sheet

Name of supplier **Cellecta Limited**

Address of supplier Bounty House, Medway Valley Park, Rochester, Kent, ME2 2NF

Telephone 01634 296677

Email technical@cellecta.co.uk

1.4 Emergency telephone number

Emergency telephone 01634 296677 (office hours Mon-Fri 08:30 - 17:00)

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; STOT SE 3, H335; Resp Sens. 1, H334; 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 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

P-statements

P202	Do not handle until all safety precautions have been read and understood
P260	Do not breathe dust/fume/gas/mist/vapours/spray
P280	Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352	IF ON SKIN: Wash with plenty of soap and water
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing
P342 + P311	If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician

Continued on page 2

Supplemental Hazard information (EU)
EUH204 - Contains isocyanates. May produce an allergic reaction.

For supply to the general public
Suppliers shall ensure before 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 the 24th 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
Does not contain any substances with endocrine disrupting properties

Section 3 - Composition/information on ingredients
3.1 Substances
Not applicable

3.2 Mixtures
Contains the following hazardous ingredients or ingredients with a workplace exposure limit:

Chemical Name	Conc.	CAS No.	EC No.	Classification (REGULATION (EC) No 1272/2008) [CLP/GHS]	SCL/ M-Factor/ ATE	REACH Registration Number	WEL/OEL
Methylenediphenyl diisocyanate	40 - 50%	26447-40-5	247-714-0	Skin Irrit. 2, H315 Skin Sens. 1, H317 Eye Irrit. 2, H319 Acute Tox. 4; H332 Resp Sens. 1, H334 STOT SE 23, H335 Carc. 2, H351 STOT RE 2, H373 **Note 2** **Note C**	Eye Irrit. 2, H319: C ≥ 5% Resp Sens. 1, H334: C ≥ 0.1% STOT SE 3, H335: C ≥ 5% Skin Irrit. 2, H315: C ≥ 5%	Some uses of this substance are restricted under Annex XVII of REACH	Yes
4,4'-methylenediphenyl diisocyanate	40 - 50%	101-68-8	202-966-0	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 **Note 2** **Note C**	Eye Irrit. 2, H319: C ≥ 5% Resp Sens. 1, H334: C ≥ 0.1% STOT SE 3, H335: C ≥ 5% Skin Irrit. 2, H315: C ≥ 5%	Some uses of this substance are restricted under Annex XVII of REACH	Yes
2,2'-dimorpholinyldiethyl ether	< 10%	6425-39-4	229-194-7	Eye Irrit. 2, H319	-	-	None

Note 2 - The concentration of isocyanate stated is the percentage by weight of the free monomer calculated with reference to the total weight of the mixture.
Note C - Some organic substances may be marketed either in a specific isomeric form or as a mixture of several isomers. In this case the supplier must state on the label whether the substance is a specific isomer or a mixture of isomers.

Continued on page 3

Section 4 - First aid measures

4.1 Description of 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.
Show this safety data sheet to the doctor in attendance.

Contact with eyes

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

Contact with skin

After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of soap and water.
Contaminated clothing should be laundered before reuse.
If skin irritation or rash occurs: Get medical advice/attention.

Ingestion

Rinse mouth with water (do not swallow).
Never give anything by mouth to an unconscious person.
Do NOT induce vomiting.
If vomiting occurs turn patient on side.
IF exposed or concerned: 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.
If breathing is difficult, oxygen should be given by a trained person.
Apply artificial respiration only if patient is not breathing.
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 nausea/vomiting.

Inhalation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
May cause damage to organs (respiratory system) through prolonged or repeated exposure.

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.

Continued on page 4

Section 5 - Fire fighting 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.
In case of fire, do not breathe fumes.
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 vapors and hydrogen cyanide.

5.3 Advise 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.
Special protective equipment: Wear self-contained breathing apparatus (SCBA). Wear full protective clothing including chemical protection suit.
Collect contaminated fire extinguishing water separately. This MUST not be discharged into drains.
Prevent fire extinguishing water from contaminating surface or ground water.

Section 6 - Accidental release measure

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.
Rescuers should take suitable precautions to avoid becoming casualties themselves.
Personal precautions for non-emergency personnel: Evacuate the area and keep personnel upwind; Avoid contact with skin and eyes; Do not breathe dust/fume/gas/mist/vapours/spray; Wash thoroughly after handling.
Personal precautions for emergency responders: Ensure adequate ventilation; Do not breathe dust/fume/gas/mist/vapours/spray; Wear protective clothing as per section 8; Wash thoroughly after dealing with spillage.

6.2 Environmental precautions

Do not allow to enter public sewers and watercourses.
Do not allow to penetrate the ground/soil.

6.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 adsorbent material. Leave to react for at least 30 minutes.
Do not absorb onto sawdust or other combustible materials.
Shovel into open-top drums for further decontamination.
Remove contaminated material to safe location for subsequent disposal.
Seek expert advice for removal and disposal of all contaminated materials and wastes.
Ventilate the area and wash spill site after material pick-up is complete.
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 %

Continued on page 5

Decontaminant 2
*- concentrated ammonia solution : 3 - 8 % *- 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 contains ammonia. Ammonia presents health hazards.

6.3 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.
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.
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.
Engineering controls should be provided which maintain airborne concentrations below the relevant guidelines.
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.
Do not get in eyes, on skin, or on clothing.
Wear protective clothing as per section 8.
When using do not eat, drink or smoke.
Keep away from heat and sources of ignition.
Contaminated work clothing should not be allowed out of the workplace.
Contaminated clothing should be laundered before reuse.
Use good personal hygiene practices.
Ensure eyewash stations and safety showers are nearby.
Wash thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities
Store locked up.
Store in a cool, dry well-ventilated place. Keep container tightly closed.
Keep away from direct sunlight.
Opened containers should be carefully resealed and stored in an upright position.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Keep away from food, drink and animal feeding stuffs.
Incompatible with strong acids, bases, and oxidising agents.

7.3 Specific end use(s)
Internal and external applications.

Section 8 - Exposure controls and 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.

Continued on page 6

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.

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).

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

2,2'-dimorpholinyldiethyl ether

DNEL (inhalational) 7.28 mg/m³ Industry, Long Term, Systemic Effects
DNEL (dermal) 1 mg/kg bw/day Industry, Long Term, Systemic Effects
DNEL (inhalational) 1.8 mg/m³ Consumer, Long Term, Systemic Effects
DNEL (dermal) 500 µg/kg bw/day Consumer, Long Term, Systemic Effects
DNEL (oral) 500 µg/kg bw/day Consumer, Long Term, Systemic Effects
PNEC aqua (freshwater) 100 µg/L
PNEC aqua (intermittent releases, freshwater) 1 mg/L
PNEC aqua (marine water) 10 µg/L
PNEC (STP) 100 mg/L
PNEC sediment (freshwater) 8.2 mg/kg
PNEC sediment (marine water) 820 µg/kg
PNEC terrestrial (soil) 1.58 mg/kg
PNEC secondary poisoning (food) 10 mg/kg

8.2 Exposure controls

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

Engineering controls

Ensure adequate ventilation.
Engineering controls should be provided which maintain airborne concentrations below the relevant guidelines.
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.

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.

Continued on page 7

Skin protection

Wear suitable protective clothing.
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.
Nitrile rubber are recommended.

Glove material

Nitrile rubber
Thickness: 0.11 mm
Breakthrough time: 480 mins
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 goggles giving complete eye protection 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 work clothing should not be allowed out of the workplace.
Contaminated clothing should be laundered before reuse.
Ensure eyewash stations and safety showers are nearby.

Environmental exposure controls

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

Section 9 - Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	Amber
Odour	Pungent odour
Melting point/freezing point	No data available
Boiling point or initial boiling point and boiling range	No data available
Flammability	Not flammable
Lower and upper explosion limit	No data available
Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
pH	5 - 6 (undiluted)
Kinematic viscosity	No data available
Solubility	No information available
Partition coefficient n-octanol/water (log value)	No data available
Vapour pressure	No data available
Density and/or relative density	No data available
Relative vapour density	0.9 - 1.10
Particle characteristics	No data available

Continued on page 8

9.2 Other information
No information available.

Section 10 - Stability and reactivity
10.1 Reactivity
No data available

10.2 Chemical stability
Stable under recommended storage conditions

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Protect from frost.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5 Incompatible materials
Incompatible with strong acids, bases, and oxidising agents.

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

Section 11 - Toxicological information
11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008
Acute toxicity
Harmful if inhaled.
Classification based on calculation and concentration thresholds
ATE mix (inhal) (gases) 6 000 ppm

Substances

Chemical Name	LD_{50} (oral, rat)	LC_{50} (inhalation, rat)	LD_{50} (dermal, rabbit)
Methylenediphenyl diisocyanate	No data available	No data available	No data available
4,4'-methylenediphenyl diisocyanate	2000 mg/kg	431 mg/m³ air	No data available
2,2'-dimorpholinyldiethyl ether	2025 mg/kg	No data available	3038 mg/kg

Continued on page 9

Skin corrosion/irritation

Causes skin irritation.
Classification based on calculation and concentration thresholds.

Substances

Chemical Name	Irritation/corrosion
Methylenediphenyl diisocyanate	No data available
4,4'-methylenediphenyl diisocyanate	Adverse effect observed (irritating)
2,2'-dimorpholinyldiethyl ether	No adverse effect observed (not irritating)

Serious eye damage/irritation

Causes serious eye irritation.
Classification based on calculation and concentration thresholds.

Substances

Chemical Name	Irritation/corrosion
Methylenediphenyl diisocyanate	No data available
4,4'-methylenediphenyl diisocyanate	No adverse effect observed (not irritating)
2,2'-dimorpholinyldiethyl ether	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.
Classification based on calculation and concentration thresholds.

Substances

Chemical Name	Skin sensitisation	Respiratory sensitisation
Methylenediphenyl diisocyanate	No data available	No data available
4,4'-methylenediphenyl diisocyanate	Adverse effect observed (sensitising)	Adverse effect observed (sensitising)
2,2'-dimorpholinyldiethyl ether	No adverse effect observed (not sensitising)	No study available

Continued on page 10

Germ cell mutagenicity

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

Substances

Chemical Name	Toxicity - In Vitro	Toxicity - In Vivo
Methylenediphenyl diisocyanate	No data available	No data available
4,4'-methylenediphenyl diisocyanate	No adverse effect observed (negative)	No adverse effect observed (negative)
2,2'-dimorpholinyldiethyl ether	No adverse effect observed (negative)	No adverse effect observed (negative)

Carcinogenicity

Suspected of causing cancer.

Classification based on calculation and concentration thresholds.

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rabbit)
Methylenediphenyl diisocyanate	No data available	No data available	No data available
4,4'-methylenediphenyl diisocyanate	No data available	1 mg/m³	No data available
2,2'-dimorpholinyldiethyl ether	No data available	No data available	No data available

Reproductive toxicity

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

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rabbit)
Methylenediphenyl diisocyanate	No data available	No data available	No data available
4,4'-methylenediphenyl diisocyanate	No data available	200µg/m³ (Effect on fertility) 4mg/m³ (Effect on development toxicity)	No data available
2,2'-dimorpholinyldiethyl ether	300mg/kg bw/day (Effect on fertility) 750mg/kg bw/day (Effect on development toxicity)	No data available	No data available

Continued on page 11

Specific target organ toxicity (STOT) - single exposure

May cause respiratory irritation.
Classification based on calculation and concentration thresholds.

Substances

Chemical Name	Route	Remarks
Methylenediphenyl diisocyanate	Respiratory	No data available
4,4'-methylenediphenyl diisocyanate	Respiratory	Adverse effect observed (irritating)
2,2'-dimorpholinyldiethyl ether	Respiratory	No study available

Specific target organ toxicity (STOT) - repeated exposure

May cause damage to organs through prolonged or repeated exposure.
Classification based on calculation and concentration thresholds.

Substances

Chemical Name	NOAEL (oral, rat)	NOAEC (inhalation, rat)	NOAEL (dermal, rabbit)
Methylenediphenyl diisocyanate	No data available	No data available	No data available
4,4'-methylenediphenyl diisocyanate	No data available	LOAEC 230 µg/m³ air	No data available
2,2'-dimorpholinyldiethyl ether	300 mg/kg bw/day	181 mg/m³	No data available

Aspiration hazard

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

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 nausea/vomiting.

Inhalation

May cause allergy or asthma symptoms or breathing difficulties if inhaled.
May cause respiratory irritation.
May cause damage to organs (respiratory system) through prolonged or repeated exposure.

Continued on page 12

11.2 Information on other hazards
Does not contain any substances with endocrine disrupting properties.

Section 12 - Ecological information
12.1 Toxicity
Based on available data, the classification criteria are not met.

Substances

Chemical Name	LC_{50} (fish)	EC_{50} (aquatic invertebrates)	EC_{50} (aquatic algae)
Methylenediphenyl diisocyanate	No data available	No data available	No data available
4,4'-methylenediphenyl diisocyanate	LL_{50} (4 days) 100 mg/L	EL_{50} (48 h) 9 mg/L	100 mg/L
2,2'-dimorpholinyldiethyl ether	(4 days) 2.15 - 2.337 g/L	(48 h) 100 mg/L	(72 h) 100 mg/L

12.2 Persistence and degradability
Not readily biodegradable

Substances

Chemical Name	Biodegradation
Methylenediphenyl diisocyanate	No data available
4,4'-methylenediphenyl diisocyanate	Not biodegradable (100%)
2,2'-dimorpholinyldiethyl ether	Under test conditions no biodegradation observed (100%)

12.3 Bioaccumulative potential

Substances

Chemical Name	Bioconcentration Factor (BCF)	Log Kow
Methylenediphenyl diisocyanate	No data available	No data available
4,4'-methylenediphenyl diisocyanate	200 dimensionless	4.51 @ 22 °C and pH 7
2,2'-dimorpholinyldiethyl ether	3 L/kg ww	(Log Pow) 0.5 @ 25 °C and pH 9

Continued on page 13

12.4 Mobility in soil

Substances

Chemical Name	Adsorption/desorption
Methylenediphenyl diisocyanate	No data available
4,4'-methylenediphenyl diisocyanate	log Koc 4.5
2,2'-dimorpholinyldiethyl ether	Koc 784 @ 20 °C

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
Does not contain any substances with endocrine disrupting properties.

12.7 Other adverse effects
No information available.

Section 13 - Disposal considerations
13.1 Waste treatment methods
This material and/or its container must be disposed of as hazardous waste.
Disposal should be in accordance with local, state or national legislation.
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

Continued on page 14

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)

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

14.9 Sea (IMDG)

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

14.10 Air (ICAO/IATA)

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

Section 15 - Regulatory information

15.1 Safety, health and environmental regulations/legistaion 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)
Conditions of restriction: 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.'

Continued on page 15

Entry 74 - Diisocyanates, O = C=N-R-N = C=O, with R an aliphatic or aromatic hydrocarbon unit of unspecified length
Conditions of restriction:
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;

Continued on page 16

— 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
(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.

15.1 Chemical Safety Assessment

A REACH chemical safety assessment has not been carried out

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 published literature and supplier safety data sheets

Training advice

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

Continued on page 17

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Skin Irrit. 2, H315: Classification based on calculation and concentration thresholds
Skin Sens. 1, H317: Classification based on calculation and concentration thresholds
Eye Irrit. 2, H319: Classification based on calculation and concentration thresholds
Acute Tox. 4, H332: Classification based on calculation and concentration thresholds
STOT SE 3, H335: Classification based on calculation and concentration thresholds
Resp. Sens. 1, H334: Classification based on calculation and concentration thresholds
Carc. 2, H351: Classification based on calculation and concentration thresholds
STOT RE 2, H373: Classification based on calculation and concentration thresholds

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
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