Safety data sheet
complying with Regulation 1907/2006/EC (REACH Regulation), EU 2015/830 and Regulation No 1272/2008/EC (CLP)

Printing date 23.05.2018 Version number 1 Revision: 23.05.2018

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

1.1 Product identifier

Trade name: PU 475 COMPONENT B
CAS Number:
28182-81-2
NLP Number:
500-060-2

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

No further relevant information available.
Application of the substance / the mixture:
Coating
Hardening agent/ Curing agent
Isocyanate resin

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier:
PENETRON HELLAS S.A.
50, THRAKOMAKEDONON AV., 136 79 ACHARNES, GREECE
TEL.: +30 210 2448250 - FAX: + 30 210 2476803
Email: info@penetron.gr Site: www.penetron.gr

1.4 Emergency telephone number:


European Emergency Tel.: 112

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation EC No 1272/2008 CLP:


GHS07

Acute Tox. 4 H332 Harmful if inhaled.
Skin Sens. 1 H317 May cause an allergic skin reaction.
STOT SE 3 H335 May cause respiratory irritation.

2.2 Label elements

Labelling according to Regulation EC No 1272/2008 CLP:
The substance is classified and labelled according to the CLP regulation.
Hazard pictograms:


GHS07

Signal word: Warning

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Hazard-determining components of labelling:
hexamethylene-1,6-diisocyanate homopolymer
hexamethylene-di-isocyanate

Hazard statements:
H332 Harmful if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

Precautionary statements
P261 Avoid breathing 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 water.
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
2.3 Other hazards
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation: Substances
CAS No. Description
28182-81-2 hexamethylene-1,6-diisocyanate homopolymer 99,5% w/w
Identification number(s)
NLP Number: 500-060-2

Ingredients according Regulation (EU) 830/2015:		
CAS: 822-06-0 EINECS: 212-485-8 Index number: 615-011-00-1	hexamethylene-di-isocyanate Acute Tox. 3, H311; Acute Tox. 3, H331; Resp. Sens. 1, H334; Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335	≥0.1-<0.5%

SECTION 4: First aid measures

4.1 Description of first aid measures
General information:
Take affected persons out into the fresh air.
Seek immediate medical advice.
After inhalation:
Remove the victim into fresh air.
In case of unconsciousness place patient stably in side position for transportation.
Seek medical treatment in case of complaints.
After skin contact:
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
In case of skin irritation, consult a physician.
After eye contact:
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
Remove contact lenses and continue rinsing for several minutes

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Avoid strong water jet-risk of cornea damage, consult a doctor.
After swallowing: Consult a physician or poison control center.
4.2 Most important symptoms and effects, both acute and delayed
No further relevant information available.
4.3 Indication of any immediate medical attention and special treatment needed
No further relevant information available.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents: CO2, powder or water spray. Fight larger fire with foam.
5.2 Special hazards arising from the substance or mixture No further relevant information available.
5.3 Advice for firefighters
Protective equipment:
Self contained breathing apparatus and full protective clothing must be worn in case of fire.
Additional information
Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:
Wear protective equipment. Keep unprotected persons away.
6.1.2 For emergency responders
First-aid responders must wear protectice clothing, gloves, goggles and respiratory device.
6.2 Environmental precautions:
Do not allow to enter sewers/ surface or ground water.
Do not allow to penetrate the ground/soil.
Inform respective authorities in case of seepage into water course or sewage system.
6.3 Methods and material for containment and cleaning up:
Absorb with liquid-binding material: (sand, diatomite, acid binders, universal binders and sawdust).
Dispose contaminated material as waste according to item 13.
6.4 Reference to other sections:
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Ensure good ventilation.
Do not breathe vapor or mist.
Information about fire - and explosion protection: No special measures required.
7.2 Conditions for safe storage, including any incompatibilities
Storage: Store in cool, dry conditions in well sealed receptacles.
Requirements to be met by storerooms and receptacles: Prevent any seepage into the ground.
Information about storage in one common storage facility: Not required.
Further information about storage conditions: Keep container tightly sealed.
7.3 Specific end use(s) No further relevant information available.

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SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:	
822-06-0 hexamethylene-di-isocyanate	
WEL (Great Britain)	Short-term value: 0.07 mg/m³ Long-term value: 0.02 mg/m³ Sen; as -NCO

DNELs
28182-81-2 Hexamethylen-1,6-diisocyanat, homopolymer
Inhalative Longterm Local 0.5 mg/m³ (worker)
Short-term Local 1 mg/m³ (worker)
PNECs
28182-81-2 Hexamethylen-1,6-diisocyanat, homopolymer
PNEC STP 38 mg/l (STP (Kläranlage))
PNEC aqua 0.127 mg/l (freshwater (Frischwasser))
0.0127 mg/l (marinewater (Meerwasser))
PNEC sediment 266700 mg/kg sed dw (Freshwater)
26670 mg/kg sed dw (Marinewater)
PNEC soil 53182 mg/kg soil dw (Soil (Boden))

8.2 Exposure controls

8.2.1. Appropriate engineering controls
Take appropriate protective measures with regard to the handling of chemicals and mixtures.

Personal protective equipment
General protective and hygienic measures:
Keep away from foodstuffs, beverages and feed.
Avoid contact with the eyes and skin.
Be sure to clean skin thoroughly after work and before breaks.
Remove contaminated clothing and protective equipment before entering eating areas.
Respiratory protection:



Use suitable respiratory protective device in case of insufficient ventilation.

Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Material of gloves
Butyl rubber, BR - 0,7 mm
Nitrile rubber, NBR- 0,4 mm
Neoprene

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Viton
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a mixture of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
Penetration time of glove material
The determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.
Eye protection:



Tightly sealed goggles

Body protection:



Protective work clothing

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information

Appearance:	
Form:	Liquid
Colour:	Colourless
Odour:	Odourless
Odour threshold:	Not determined
pH value:	Not determined
Flash point:	288 °C
Flammability (solid, gas):	Not applicable
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Auto-ignition temperature:	Product is not selfigniting.
Explosive properties:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapour pressure:	Not determined
Density at 20 °C:	1.17 g/cm³
Relative density	Not determined
Vapour density	Not determined
Evaporation rate	Not determined

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Solubility in / Miscibility with water: Hydrolyses

Partition coefficient: n-octanol/water: Not determined

Viscosity:
Dynamic: Not determined
Kinematic: Not determined
9.2 Other information No further relevant information available.

SECTION 10: Stability and reactivity

10.1 Reactivity Stable under normal conditions
10.2 Chemical stability Material is stable under normal conditions.
Thermal decomposition / conditions to be avoided Stable at environment temperature.
10.3 Possibility of hazardous reactions
Reacts with acids, alkalis and oxidising agents.
Reacts with amines.
Reacts with alcohols.
Exothermic reaction.
10.4 Conditions to avoid No further relevant information available.
10.5 Incompatible materials No further relevant information available.
10.6 Hazardous decomposition products Irritant gases/vapours

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute toxicity
Harmful if inhaled.
LD/LC50 values relevant for classification:
28182-81-2 Hexamethylen-1,6-diisocyanat, homopolymer
Oral LD50 >5000 mg/kg (rat)
Dermal LD50 >2000 mg/kg (rat)
Inhalative LC50/4 h 0.543 mg/l (rat)

ATE (Acute Toxicity Estimates)		
Dermal	LD50	>118,600-593,000 mg/kg (rat)
Inhalative	LC50/4 h (vapour)	>10.9-11 mg/l

822-06-0 hexamethylene-di-isocyanate		
Oral	LD50	738 mg/kg (rat)
Dermal	LD50	593 mg/kg (rat)

Skin corrosion/irritation Based on available data, the classification criteria are not met.
Serious eye damage/irritation Based on available data, the classification criteria are not met.
Respiratory or skin sensitisation
May cause an allergic skin reaction.
Repeated dose toxicity Based on the data, the classification criteria are not fulfilled.
CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
Germ cell mutagenicity Based on available data, the classification criteria are not met.
Carcinogenicity Based on available data, the classification criteria are not met.

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Reproductive toxicity Based on available data, the classification criteria are not met.
STOT-single exposure
The product is classified as Specific Target Organ Toxicity after single exposure Category 3
May cause respiratory irritation.
STOT-repeated exposure Based on available data, the classification criteria are not met.
Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

12.1 Toxicity
Aquatic toxicity:
822-06-0 hexamethylene-di-isocyanate
EC0 > 89.1 mg/l (Daphnia (Wasserfloh))
EC50/72h >77.4 mg/l (Scenedesmus subspicatus (Alge))
LC0/96h 82.8 mg/l (Danio rerio (Zebrabärbling))
12.2 Persistence and degradability No further relevant information available.
12.3 Bioaccumulative potential No further relevant information available.
12.4 Mobility in soil No further relevant information available.
Additional ecological information:
General notes: Do not allow product to reach ground water, water course or sewage system.
12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods
Recommendation



Dispose according to National Regulations.



Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Contact manufacturer for recycling information.
Waste disposal key:
08 04 09 - waste adhesives and sealants containing organic solvents or other dangerous substances.

Uncleaned packaging:
Recommendation:
Disposal must be made according to official regulations.
Packaging may be reused or recycled after cleaning.

SECTION 14: Transport information

14.1 UN-Number
ADR, ADN, IMDG, IATA Void

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14.2 UN proper shipping name
ADR, ADN, IMDG, IATA Void
14.3 Transport hazard class(es)

ADR, ADN, IMDG, IATA
Class Void
14.4 Packing group
ADR, IMDG, IATA Void
14.5 Environmental hazards: Not applicable.
14.6 Special precautions for user Not applicable.
14.7 Transport in bulk according to Annex II of Marpol and the IBC Code Not applicable.
UN "Model Regulation": Void

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
REACH Regulation 1907/2006/EC
Regulation (EU) 2015/830
CLP Regulation 1272/2008/EC
Directive 98/24/EC on the protection of health and safety of workers from the risks related to chemicals agents at work.
Council Directive 94/33/EC on the protection of young people at work, as ammended.
Directive 92/85/EEC on the introduction of measures to encourage improvements in the safety and health at work of pregnant workers and workers who have recently given birth or are breastfeeding, as ammended

Directive 2012/18/EU
Named dangerous substances - ANNEX I
Substance is not listed.
None of the ingredients is listed.
REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

National regulations:

Other regulations, limitations and prohibitive regulations

Substances of very high concern (SVHC) according to REACH, Article 57
The substance is not SVHC.

15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
Relevant phrases
H302 Harmful if swallowed.
H311 Toxic in contact with skin.
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.

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H335 May cause respiratory irritation.

Training hints

Suitable training on safety in handling, storing and converting the product should be given to the employees based on all the existing information.

Department issuing SDS:

SUSTCHEM Engineering SA
REACH & Chemical Services Department
144, 3rd Septemvriou, GR 112 51, Athens, Greece
Tel.: +30 210 8252510 Fax: +30 210 8252575
E-mail: info@suschem.gr
Website: www.sustchem.gr

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
SVHC: Substances of Very High Concern
vPvB: very Persistent and very Bioaccumulative
Acute Tox. 4: Acute toxicity – Category 4
Acute Tox. 3: Acute toxicity – Category 3
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Resp. Sens. 1: Respiratory sensitisation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3