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

Printing date 17.07.2018 Version number 1 Revision: 30.01.2018

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

1.1 Product identifier

Trade name: PU 410 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

Sector of Use
SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
SU19 Building and construction work
Product category
PC9a Coatings and paints, thinners, paint removers
PC9b Fillers, putties, plasters, modelling clay
PC1 Adhesives, sealants
Process category
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises
PROC8a Transfer of substance or mixture (charging and discharging) at non-dedicated facilities
PROC8b Transfer of substance or mixture (charging and discharging) at dedicated facilities
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC15 Use as laboratory reagent
Environmental release category ERC2 Formulation into mixture
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

(Contd. on page 2)

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

Printing date 17.07.2018 Version number 1 Revision: 30.01.2018

Trade name: PU 410 COMPONENT B

(Contd. of page 1)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation EC No 1272/2008 CLP:

GHS06 skull and crossbones

Acute Tox. 2 H330 Fatal if inhaled.

GHS07

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:

GHS06

Signal word: Danger

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

Hazard statements:
H330 Fatal if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

Precautionary statements
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.

(Contd. on page 3)

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

Printing date 17.07.2018 Version number 1 Revision: 30.01.2018

Trade name: PU 410 COMPONENT B

(Contd. of page 2)

SECTION 3: Composition/information on ingredients

3.1 Chemical characterisation: Substances
CAS No. Description
28182-81-2 hexamethylene-1,6-diisocyanate homopolymer
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 Reg.nr.: 01-2119457571-37-XXXX	hexamethylene-di-isocyanate 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:
Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
Remove breathing equipment only after contaminated clothing have been completely removed.
In case of irregular breathing or respiratory arrest provide artificial respiration.
Take affected persons out into the fresh air.
Seek immediate medical advice.
After inhalation:
In case of unconsciousness place patient stably in side position for transportation.
Supply fresh air; consult doctor in case of complaints.
After skin contact:
Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.
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
Avoid strong water jet-risk of cornea damage, consult a doctor.
After swallowing:
Rinse mouth and drink plenty of water.
Consult a physician or poison control center.
Never give anything by mouth to an unconscious person.
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
During heating or in case of fire poisonous gases are produced.

(Contd. on page 4)

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

Printing date 17.07.2018 Version number 1 Revision: 30.01.2018

Trade name: PU 410 COMPONENT B

(Contd. of page 3)

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.
6.1.1 For non-emergency personnel Avoid contact with dripping or leaking material
6.1.2 For emergency responders
Wear protective equipment. Keep unprotected persons away.
First-aid responders must wear protectice clothing, gloves, goggles and respiratory device.
6.2 Environmental precautions:
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.
Ensure adequate ventilation.
Send for recovery or disposal in suitable receptacles.
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.
Open and handle receptacle with care.
Information about fire - and explosion protection: Keep respiratory protective device available.
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: Store in a cool location.
Information about storage in one common storage facility: Store away from foodstuffs.
Further information about storage conditions:
Keep container tightly sealed.
Store under lock and key and with access restricted to technical experts or their assistants only.
Store under lock and key and out of the reach of children.
7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:	
CAS: 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

(Contd. on page 5)

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

Printing date 17.07.2018 Version number 1 Revision: 30.01.2018

Trade name: PU 410 COMPONENT B

(Contd. of page 4)

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:
Be sure to clean skin thoroughly after work and before breaks.
Remove contaminated clothing and protective equipment before entering eating areas.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Store protective clothing separately.
Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

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, Nitrile rubber, NBR
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 exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
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

(Contd. on page 6)

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

Printing date 17.07.2018 Version number 1 Revision: 30.01.2018

Trade name: PU 410 COMPONENT B

(Contd. of page 5)

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
General Information
Appearance:

Form:	Liquid
Colour:	Light yellow
Odour:	Odourless
Odour threshold:	Not determined
pH value:	Not determined
Melting point/freezing point:	136 °C
Flash point:	170 °C
Flammability (solid, gas):	Not applicable
Auto-ignition temperature:	Not determined
Decomposition temperature:	Not determined
Auto-ignition temperature:	Not determined.
Explosive properties:	Product does not present an explosion hazard.
Explosion limits:	
Lower:	1.3 Vol %
Upper:	13 Vol %
Vapour pressure:	Not determined
Density at 20 °C:	1.13 g/cm³
Relative density	Not determined
Vapour density	Not determined
Evaporation rate	Not determined
Solubility in / Miscibility with water:	Soluble
Partition coefficient: n-octanol/water:	Not determined
Viscosity:	
Dynamic at 23 °C:	2,500 mPas
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 No dangerous reactions known.
10.4 Conditions to avoid No further relevant information available.

(Contd. on page 7)

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

Printing date 17.07.2018 Version number 1 Revision: 30.01.2018

Trade name: PU 410 COMPONENT B

(Contd. of page 6)

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
Fatal if inhaled.

LD/LC50 values relevant for classification:		
ATE (Acute Toxicity Estimates)		
Inhalative	LC50/4 h (vapour)	0.5 mg/l

CAS: 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.
Sensitisation Sensitization possible through skin contact
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.
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:
28182-81-2 Hexamethylen-1,6-diisocyanat, Oligomerisationsprodukt
EC50/48 h >100 mg/l (Daphnia (Wasserfloh))
LC50/96 h >100 mg/l (Danio rerio (Zebrabärbling))

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.
Danger to drinking water if even small quantities leak into the ground.

(Contd. on page 8)

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

Printing date 17.07.2018 Version number 1 Revision: 30.01.2018

Trade name: PU 410 COMPONENT B

(Contd. of page 7)

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
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.
Stowage Category A
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

(Contd. on page 9)

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

Printing date 17.07.2018 Version number 1 Revision: 30.01.2018

Trade name: PU 410 COMPONENT B

(Contd. of page 8)

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
None of the ingredients is listed.
Substance is not listed.
Seveso category H2 H2 ACUTE TOXIC
Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t
Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t
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.
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.
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
Contact:
Mr. Spyros Damilos

PENETRON HELLAS LTD
Thrakomakedonon 52A, Acharnes, 136 71, Attica, Greece
Tel: +30 210 2448250 Fax: +30 210 2476803

(Contd. on page 10)

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

Printing date 17.07.2018 Version number 1 Revision: 30.01.2018

Trade name: PU 410 COMPONENT B

(Contd. of page 9)

Email: s.damilos@penetron.gr Site: www.penetron.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)
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. 2: Acute toxicity – Category 2
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