

Safety data sheet

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

1.1. Product identifier

Product name U-Seal 207 PLUS

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

Intended use One component adhesive for the automotive industry.

1.3. Details of the supplier of the safety data sheet

Name N.P.T. S.r.l.
Full address via Guido Rossa 2
District and Country 40053 Valsamoggia - Loc. Crespellano (BO)
Italy
Tel. +39 051 969109
Fax +39 051 969837

e-mail address of the competent person
responsible for the Safety Data Sheet infoSDS@nptsrl.com

1.4. Emergency telephone number

For urgent inquiries refer to Laboratories and manufactory plant - Gropello Cairoli (PV)
+39 0382 815132 (available from Monday to Friday, only in the following office hours:
8.30-12.30, 13.30-17.00).

SECTION 2. Hazards identification.

2.1. Classification of the substance or mixture.

The product is classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 and subsequent amendments.

Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

2.1.1. Regulation 1272/2008 (CLP) and following amendments and adjustments.

Hazard classification and indication:
Resp. Sens. 1 H334

2.1.2. 67/548/EEC and 1999/45/EC Directives and following amendments and adjustments.

Danger Symbols: Xn

R phrases: 42

The full wording of the Risk (R) and hazard (H) phrases is given in section 16 of the sheet.

2.2. Label elements.

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: Danger

Hazard statements:
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
EUH204 Contains isocyanates. May produce an allergic reaction.

Precautionary statements:

SECTION 2. Hazards identification. ... / >>

P261 Avoid breathing dust / fume / gas / mist / vapours / spray.
P285 In case of inadequate ventilation wear respiratory protection.
P304+P341 IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER or doctor / physician.
P405 Store locked up.
P501 Dispose of contents / container to licensed, permitted incinerator, or other thermal destruction device.

Contains: DIPHENYLMETHANE-4,4'-DIISOCYANATE

2.3. Other hazards.

Information not available.

SECTION 3. Composition/information on ingredients.

3.1. Substances.

Information not relevant.

3.2. Mixtures.

Contains:

Identification.	Conc. %.	Classification 67/548/EEC.	Classification 1272/2008 (CLP).
4,4'-METHYLENEDIPHENYLDIISOCYANATE HOMOPOLYMER			
CAS. 25686-28-6	0,9 - 1	Carc. Cat. 3 R40, Xn R20, Xn R42/43, Xn R48/20, Xi R36/37/38	Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317
EC. 500-040-3			
INDEX. -			
Reg. no. 01-2119457013-49-0002			
N-METHYL-2-PYRROLIDONE			
CAS. 872-50-4	0,9 - 1	Repr. Cat. 2 R61, Xi R36/37/38	Repr. 1B H360D, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335
EC. 212-828-1			
INDEX. 606-021-00-7			
DIPHENYLMETHANE-4,4'-DIISOCYANATE			
CAS. 101-68-8	0,9 - 1	Carc. Cat. 3 R40, Xn R20, Xn R42/43, Xn R48/20, Xi R36/37/38, Note 2 C	Carc. 2 H351, Acute Tox. 4 H332, STOT RE 2 H373, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Resp. Sens. 1 H334, Skin Sens. 1 H317, Note 2 C
EC. 202-966-0			
INDEX. 615-005-00-9			

Note: Upper limit is not included into the range.

The full wording of the Risk (R) and hazard (H) phrases is given in section 16 of the sheet.

T+ = Very Toxic(T+), T = Toxic(T), Xn = Harmful(Xn), C = Corrosive(C), Xi = Irritant(Xi), O = Oxidizing(O), E = Explosive(E), F+ = Extremely Flammable(F+), F = Highly Flammable(F), N = Dangerous for the Environment(N)

SECTION 4. First aid measures.

4.1. Description of first aid measures.

EYES: Remove contact lenses, if present Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice
 SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.
 INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.
 INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed.

For symptoms and effects caused by the contained substances, see chap. 11.

4.3. Indication of any immediate medical attention and special treatment needed.

Information not available.

SECTION 5. Firefighting measures.

5.1. Extinguishing media.

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

SECTION 5. Firefighting measures. ... / >>

5.2. Special hazards arising from the substance or mixture.

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

5.3. Advice for firefighters.

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health.

Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures.

6.1. Personal precautions, protective equipment and emergency procedures.

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions.

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up.

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections.

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage.

7.1. Precautions for safe handling.

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

7.2. Conditions for safe storage, including any incompatibilities.

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s).

Information not available.

SECTION 8. Exposure controls/personal protection.

8.1. Control parameters.

Regulatory References:

United Kingdom

EH40/2005 Workplace exposure limits. Containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations (as amended).

Éire

Code of Practice Chemical Agent Regulations 2011.

OEL EU

Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC.

TLV-ACGIH

ACGIH 2012

DIPHENYLMETHANE-4,4'-DIISOCYANATE

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min	
		mg/m3	ppm	mg/m3	ppm
OEL	IRL	0,02		0,07	
TLV-ACGIH		0,051	0,005		

SECTION 8. Exposure controls/personal protection. ... / >>

N-METHYL-2-PYRROLIDONE

Threshold Limit Value.

Type	Country	TWA/8h		STEL/15min		
		mg/m3	ppm	mg/m3	ppm	
WEL	UK	40	10	80	20	SKIN
OEL	IRL	40	10	80	20	SKIN
OEL	EU	40	10	80	20	SKIN

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

8.2. Exposure controls.

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

HAND PROTECTION

Protect your hands with work gloves, category III (ref. standard EN 374). For the final choice of material you need to assess the type of use. In case of contact for the short term or as protection against splashes, use gloves made of butyl rubber or nitrile (0.4mm thickness, permeation time <30 min.). In the event of continued exposure use Viton gloves (0.4mm thickness, permeation time > 30 min.). Contaminated gloves should be removed.

SKIN PROTECTION

Wear category I professional long-sleeved overalls and safety footwear (see Directive 89/686/EEC and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION

In case of exceeding the threshold value (eg, TLV-TWA) of the substance or one or more of the substances present in the product, it is advisable to wear a mask with filter type A for organic vapors, the class (1, 2 or 3) must be chosen according to the limit concentration of use (1000, 5000 or 10000 ppm) (ref. standard EN 14387).

SECTION 9. Physical and chemical properties.

9.1. Information on basic physical and chemical properties.

Appearance	paste
Colour	black
Odour	characteristic
Odour threshold.	Not available.
pH.	Not available.
Melting point / freezing point.	Not available.
Initial boiling point.	Not available.
Boiling range.	Not available.

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Flash point.	Not available.
Evaporation rate	Not available.
Flammability (solid, gas)	Not available.
Lower inflammability limit.	Not available.
Upper inflammability limit.	Not available.
Lower explosive limit.	Not available.
Upper explosive limit.	Not available.
Vapour pressure.	Not available.
Vapour density	Not available.
Relative density.	1,28 Kg/l
Solubility	Not available.
Partition coefficient: n-octanol/water	Not available.
Auto-ignition temperature.	Not available.
Decomposition temperature.	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Oxidising properties	Not available.

9.2. Other information.

VOC (Directive 1999/13/EC) :	0,90 % - 11,52	g/litre.
VOC (volatile carbon) :	0,54 % - 6,97	g/litre.

SECTION 10. Stability and reactivity.**10.1. Reactivity.**

There are no particular risks of reaction with other substances in normal conditions of use.

N-METHYL-2-PYRROLIDONE: decomposes at temperatures over 300°C. When exposed to the air it oxidates slowly to develop hydroperoxides. Completely mixable with water with a neutral or slightly basic reaction. It does not attack common materials but does dissolve several kinds of plastic materials.

DIPHENYLMETHANE-4,4'-DIISOCYANATE: decomposes at 274°C. With water it develops carbon dioxide and forms an insoluble solid polymer. Consequently any wet material recovered must be stored in open containers.

10.2. Chemical stability.

The product is stable in normal conditions of use and storage.

N-METHYL-2-PYRROLIDONE: stable up to 315°C in inerte atmospheres.

10.3. Possibility of hazardous reactions.

No hazardous reactions are foreseeable in normal conditions of use and storage.

N-METHYL-2-PYRROLIDONE: may react dangerously with strong oxidants and strong acids.

DIPHENYLMETHANE-4,4'-DIISOCYANATE: can react dangerously with: alcohols, amines, ammonia, sodium hydroxide, acids, water and strong bases and acids.

10.4. Conditions to avoid.

None in particular. However the usual precautions used for chemical products should be respected.

10.5. Incompatible materials.

N-METHYL-2-PYRROLIDONE: Sulphur and carbon disulphide. Oxidising substances, rubbers, plastics, aluminium and some metals.

10.6. Hazardous decomposition products.

N-METHYL-2-PYRROLIDONE: nitric oxides, carbon oxides.

DIPHENYLMETHANE-4,4'-DIISOCYANATE: nitric oxides, carbon oxides, hydrogen cyanide.

SECTION 11. Toxicological information.**11.1. Information on toxicological effects.**

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

Inhalation of this product causes sensitization, which may then give rise to a series of inflammatory episodes, most of all characterized by obstruction and affecting the respiratory system. Sometimes, sensitization phenomena arise together with evident rhinitis and asthma. Damages to the respiratory system depend on the inhaled quantity, on the product concentration in the working environment and on the exposure time.

N-METHYL-2-PYRROLIDONE: no acute or chronic cases of intoxication or sensitization have been reported. On healthy volunteers, repeated skin applications caused modest and transient erythema. The substance enhances the absorption of several substances through the skin. A limit of exposure of 400 mg/cu.m is recommended (Fiche toxicologique, 1987). Experiments conducted on mice and rats by the oral and inhalation way revealed no teratogenic effects, at non embryotoxic doses. It is not mutagenic with Ames test.

DIPHENYLMETHANE-4,4'-DIISOCYANATE: risk of sensitization even at concentrations lower than TLV in case of spray working.

4,4'-METHYLENEDIPHENYLDIISOCYANATE HOMOPOLYMER

LD50 (Oral). > 5000 mg/kg Rattus sp.

LD50 (Dermal). > 9400 mg/kg Oryctolagus sp.

N-METHYL-2-PYRROLIDONE

LD50 (Oral). 3914 mg/kg Rattus sp.

LD50 (Dermal). 7000 mg/kg Rattus sp.

LC50 (Inhalation). > 5,1 mg/l/4h Rattus sp.

DIPHENYLMETHANE-4,4'-DIISOCYANATE

LD50 (Oral). > 2000 mg/kg Rattus sp.

SECTION 11. Toxicological information. ... / >>

LD50 (Dermal). > 9400 mg/kg Oryctolagus sp.
LC50 (Inhalation). 2,24 mg/l Rattus sp.

SECTION 12. Ecological information.**12.1. Toxicity.**

4,4'-METHYLENEDIPHENYLDIISOCYANATE HOMOPOLYMER

LC50 - for Fish. > 1000 mg/l/96h Danio Rerio
Chronic NOEC for Algae / Aquatic Plants. 1640 mg/l Desmodesmus subspicatus

DIPHENYLMETHANE-4,4'-DIISOCYANATE

LC50 - for Fish. > 1000 mg/l/96h Danio rerio
Chronic NOEC for Algae / Aquatic Plants. 1640 mg/l Desmodesmus subspicatus

12.2. Persistence and degradability.

Information not available.

12.3. Bioaccumulative potential.

Information not available.

12.4. Mobility in soil.

Information not available.

12.5. Results of PBT and vPvB assessment.

On the basis of available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

12.6. Other adverse effects.

Information not available.

SECTION 13. Disposal considerations.**13.1. Waste treatment methods.**

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

Avoid littering. Do not contaminate soil, sewers and waterways.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information.

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

SECTION 15. Regulatory information.**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture.**

Seveso category. None.

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006.

Product.

Point. 3

Contained substance.

Point.	30	N-METHYL-2-PYRROLIDONE
Point.	52	DIISONONYL PHTHALATE
Point.	56	DIPHENYLMETHANE-4,4'-DIISOCYANATE

Substances in Candidate List (Art. 59 REACH).

N-METHYL-2-PYRROLIDONE

Substances subject to authorisation (Annex XIV REACH).

None.

SECTION 15. Regulatory information. ... / >>

Substances subject to exportation reporting pursuant to (EC) Reg. 649/2012:

None.

Substances subject to the Rotterdam Convention:

None.

Substances subject to the Stockholm Convention:

None.

Healthcare controls.

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment.

No chemical safety assessment has been processed for the mixture and the substances it contains.

SECTION 16. Other information.

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Carc. 2	Carcinogenicity, category 2
Repr. 1B	Reproductive toxicity, category 1B
Acute Tox. 4	Acute toxicity, category 4
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
Resp. Sens. 1	Respiratory sensitization, category 1
Skin Sens. 1	Skin sensitization, category 1
H351	Suspected of causing cancer.
H360D	May damage the unborn child.
H332	Harmful if inhaled.
H373	May cause damage to organs through prolonged or repeated exposure.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317	May cause an allergic skin reaction.
EUH204	Contains isocyanates. May produce an allergic reaction.

Text of risk (R) phrases mentioned in section 2-3 of the sheet:

R20	HARMFUL BY INHALATION.
R36/37/38	IRRITATING TO EYES, RESPIRATORY SYSTEM AND SKIN.
Carc. Cat. 3	Carcinogenicity, category 3.
R40	LIMITED EVIDENCE OF A CARCINOGENIC EFFECT.
R42	MAY CAUSE SENSITIZATION BY INHALATION.
R42/43	MAY CAUSE SENSITIZATION BY INHALATION AND SKIN CONTACT.
R48/20	HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY PROLONGED EXPOSURE THROUGH INHALATION.
Repr. Cat. 2	Reproductive toxicity, development, category 2.
R61	MAY CAUSE HARM TO THE UNBORN CHILD.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- CAS NUMBER: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE NUMBER: Identifier in ESIS (European archive of existing substances)
- CLP: EC Regulation 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX NUMBER: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level

SECTION 16. Other information. ... / >>

- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: EC Regulation 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA STEL: Short-term exposure limit
- TWA: Time-weighted average exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation.

GENERAL BIBLIOGRAPHY

1. Directive 1999/45/EC and following amendments
2. Directive 67/548/EEC and following amendments and adjustments
3. Regulation (EC) 1907/2006 (REACH) of the European Parliament
4. Regulation (EC) 1272/2008 (CLP) of the European Parliament
5. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
6. Regulation (EC) 453/2010 of the European Parliament
7. Regulation (EC) 286/2011 (II Atp. CLP) of the European Parliament
8. Regulation (EC) 618/2012 (III Atp. CLP) of the European Parliament
9. The Merck Index. - 10th Edition
10. Handling Chemical Safety
11. Niosh - Registry of Toxic Effects of Chemical Substances
12. INRS - Fiche Toxicologique (toxicological sheet)
13. Patty - Industrial Hygiene and Toxicology
14. N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
15. ECHA website

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.