Radex® 701 Polyurethane sealant (grey, white, black)
Article: 220701, 220702, 220703

ONE PART, BRUSHABLE, ELASTIC ADHESIVE AND SEALANT FOR VEHICLE CONSTRUCTION AND REPAIRS

Directive 1907/2006/CE (REACH)

1) IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1 Identification of the substance or mixture:

Name: Radex 701 Polyurethane sealant

Description: 1K-Polyurethane sealant/adhesive

1.2 Use of substance/mixture: automotive applications

1.3 Company/undertaking identification

RADEX-EUROPE Ltd.
Uriekstes iela 3, Riga
LV-1005, Latvija
Tel.: +37167387778
FAX: +37167387789
Responsible person of MSDS: info@radex-europe.lv

1.4 Emergency telephone

Emergency service 24h: 112

2) HAZARDS IDENTIFICATION

2.1 Classification according to EU/548/CEE o 1999/45/CE

Xn Harmful

R 42 May cause sensitization by inhalation

2.2 Labelling

Hazard symbol

Xn Harmful

Risk Phrases

R 42: May cause sensitization by inhalation

S-Phrases

S 23: Do not breathe gas/fumes/vapour/spray

S 36: Wear suitable protective clothing

S 45: In case of accident or if you feel unwell, seek medical advice immediately (show label where possible)

S 60 This product and its container must be disposed of as hazardous waste

Contains: 4,4'- Diphenylmethane-diisocyanate (MDI)

Consult information supplied by the manufacturer.

2.3 Other risks

None available

3) COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Not classified as substance

3.2 Mixture

This product is a mixture

PRODUCT	%	CAS N°.	EINCS N°	'R' PHRASES SYMBOL

4-4' difenilmethane diisocyanate, mixed isomers	0,1-1,0	101-68-8	202-966-0	R20-/36/37/38-40-48/20-42/43	Xn
Xylene, mixed isomers	4,0-9,0	1330-20-7	215-535-7	R10-20/21-38	Xn

See Chapter 16 for further information on 'R' - Risk Phrases.

4) FIRST AID MEASURES

4.1 First aid measures description

Eye Contact:

In the case of product contact with eyes, immediately rinse carefully with plenty of water (remove contact lenses, if any) and consult a doctor.

Skin Contact:

In the case of product contact with skin, remove by hand, and wash carefully with plenty of soap and water.

Ingestion:

In the case of ingestion it is necessary to consult a doctor. Do not induce vomiting unless directed to do so by medical personnel.

Inhalation:

Move person to fresh air. If there are breathing problems, effect artificial respiration; if by mouth to mouth, use protection (pocket mask, etc). If breathing is difficult, then oxygen should be administered by qualified personnel.

4.2 Symptoms and effects

Ingestion: N.A

Eye contact: N.A

MEDICAL NOTES:

If you are sensitized to diisocyanates, consult your physician regarding working with other respiratory irritants or sensitizers. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5) FIRE-FIGHTING MEASURES

5.1 Extinguishing methods

Anti-fire powder, nebulised water, carbon dioxide

In the case of fire the following substances may form: carbon monoxide, nitric oxide, cyanidric acid.

5.2 Special danger from the mixing

None

5.3 Special protective equipment for fire-fighting teams

None

6) ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions

Wear gloves

6.2 Environmental precaution

Do not dispose of in drains.

6.3 Clearance Methods

Clean away leakage mechanically; cover leakage with damp absorbent material (e.g.: sawdust, reactive chemical binders based on calcium hydrate silicate, sand). After 1 hour, collect in a waste container. Do not close (it develops carbon dioxide). Keep humid and leave for many days in the open air, in a controlled area.

Further disposal by incineration in accordance with European and local laws in force. See Section 13.

7) HANDLING AND STORAGE

7.1 Handling

Provide sufficient air ventilation/aspiration in working areas. Avoid contact with skin, eyes and clothes. Do not eat, drink nor smoke during use.

7.2 Storage

The storage temperature should be between + 5°C e + 35°C.

It should be kept dry and airtight closed in a cool airy place which is protected from sunlight.

7.3 Specific use(s)

For more details please refer to the Technical Data Sheet

8) EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Exposure limit values

COMPONENT	LIST	TYPE	VALUE
4,4' METHYLENEDIPHENYL DIISOCYANATE; DIPHENYLMETHANE -4,4' DIISOCYANATE (MDI)	UK WEL	TWA	5 mg/m3
	Ireland OELV	TWA as NCO	0.02 mg/m3 –R-SEN
	Ireland OELV	STEL as NCO	0.07 mg/m3 R-SEN
	ACGIH	TWA	0.005 mg/m3 R-SEN
Xylene	WEL	TWA	434 mg/m3 R-SEN
	WEL	STEL	651 mg/m3 R-SEN
	ACGIH	TWA	100 ppm
	ACGIH	STEL	150 ppm

R-SEN : Notation following the exposure guideline refers to the potential to produce respiratory sensitization, as confirmed by human or animal data. TWA: Time Weighted Average, OELV: Occupational Exposure Limit, STEL . Short Term Exposure Limit, ACGIH: American Conference of Governmental Industrial Hygenists Inc., WEL: Workplace Exposure Limit

8.2 Exposure Controls

8.2.1 Occupational exposure controls

Respiratory Protection

Atmospheric levels should be maintained below the exposure guideline. When atmospheric levels may exceed the exposure guideline, use an approved air-purifying respirator equipped with an organic vapour absorbent and a particle filter.

Hand protection

Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals. Examples of preferred glove barrier materials include: Butyl rubber. Polyethylene. Chlorinated polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Examples of acceptable glove barrier materials include: Viton. Neoprene. Natural rubber (latex"). Polyvinyl chloride ("PVC" or "vinyl"). Nitryl/butadiene rubber ("nitryl" or"NBR").

Eye Protection

Use chemical-proof glasses – which should conform to the Directive 89/686/EEC Cat.2. Ensure that an eye-wash fountain is close at hand.

Skin Protection

Wear protective working clothes.

8.2.2 Environmental exposure controls

Ventilation

Use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations. Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines. Exhaust systems should be designed to move the air away from the source of vapour/aerosol generation and people working at this point. The odour and irritancy of this material are inadequate to warn of excessive exposure.

9) PHYSICAL AND CHEMICAL PROPERTIES

9.1 General Information

Appearance/Physical State Paste
Odour light typical

9.2 Important health, safety and environmental information

Ph Not Applicable
Autoignition Temperature (°C) > 250 °C
Boiling Point Not Applicable
Flash Point > 200°C
Flammability (Solid/Gas) Not Available
Lower Explosion Limit Not Available
Higher Explosion Limit Not Available
Oxidising Properties Not Applicable
Relative Density Approx. 1.2 gr/ml
Vapour Pressure N.A.
Solubility In Water (20°C) Not Soluble: Reacts
Solubility In Organic Solvents (20°C) Complete
Partition Coefficient N-Octanol/Water Not Applicable
Viscosity Not Available
Vapour Density Not Applicable
Evaporation Rate Not Available
V.O.C. 115,5 g/l

9.3 Other Information

No other information

10) STABILITY AND REACTIVITY

Chemical Stability

Product remains stable if handled and contained in recommended storage conditions

10.1 Conditions to avoid

Avoid excessive heat – as some components of this product can decompose at elevated temperatures.

10.2 Materials to avoid

Acids. Alcohols. Amines. Bases. Strong Oxidizers. Water.

10.3 Hazardous decomposition products

MDI base products react with many substances by generating heat, such as: chemical bases (e.g. caustic soda), ammonia, primary and secondary amine, alcohol, water and acids. MDI base products are insoluble in water and as they are denser than water, precipitate to the bottom, slowly reacting on the interface. The reaction forms a solid polyurea layer which is not soluble in water and which releases carbon dioxide.

11) TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Ingestion

Toxicity caused by a single oral dosage is low. The oral LD50 for rats is >2000 mg/kg. (body weight).; however, swallowing larger amounts may cause injury. Symptoms include: nausea , vomiting and abdominal discomfort or diarrhoea.

Contact with Eyes

May cause irritation.

Contact with Skin

Skin sensitivity such as redness and staining can be developed following prolonged and repeated contact but is unlikely to result in absorption of harmful amounts. The dermal LD50 has not been determined.

Inhalation

At room temperature, exposure to vapour is minimal due to low volatility; vapour from heated material or mist may cause respiratory sensitization and other effects on health. For some components/s, excessive exposure may cause irritation to upper respiratory tract (nose and throat) and lungs. May cause pulmonary edema (fluid in lungs). Decreased lung function has been associated with over-exposure to isocyanates. Effects may be delayed. This material contains mineral and/or inorganic fillers. There is essentially no potential for inhalation exposure to these fillers incidental to industrial handling due to the physical state.

SENSITIZATION

Skin

Allergic skin reactions can be caused by a component in this preparation. Laboratory studies on animals have shown that skin contact with isocyanates may effect respiratory sensitization.

Respiratory

A component in this mixture may cause an allergic respiratory response. MDI concentrations below the exposure guidelines may cause allergic respiratory reactions in individuals already sensitized. Asthma-like symptoms may include coughing, difficult breathing and a feeling of tightness in the chest.

Repeated Dose Toxicity

Tissue injury in the upper respiratory tract and lungs has been observed in laboratory animals after repeated excessive exposures to MDI/POLYMERIC MDI aerosols. Contains component/s which have been reported to cause effects on the following organs in animals: liver, kidney.

Carcinogenicity and Chronic Toxicity

Lung tumours have been observed in laboratory animals exposed to aerosol droplets of MDI/POLYMERIC MDI (6mg/m3) for their lifetime. Tumours occurred concurrently with respiratory irritation and lung injury.

Foetal Development Toxicity

Contains component/s which has not caused birth defects in animals, other foetal effects occurred only at doses toxic to mother.

Reproductive Toxicity

N.A

Genetic Toxicology

Genetic toxicity data on MDI are inconclusive. MDI was weakly positive in some vitro studies, other in vitro studies were negative. Animal mutagenic studies were found to be generally negative .

12) ECOLOGICAL INFORMATION

12.1 Ecotoxicity

For the component: **4,4'-Methylenediphenyl diisocyanate; diphenylmethane-4,4' -diisocyanate (MDI)**

In the aquatic and terrestrial environment, movement is expected to be limited by its reaction with water forming predominantly insoluble polyureas (which appear to be stable). In the atmospheric environment, material is expected to have a short tropospheric half-life, based on calculations and by analogy with related diisocyanates.

12.2 Mobility
For the component: **4,4'-Methylenediphenyl diisocyanate; diphenylmethane-4,4' -diisocyanate (MDI)**
In the aquatic environment and terrestrial its diffusion is limited because of the reaction with water forming insoluble polyureas
12.3 Persistence and degradability
For the component: **4,4'-Methylenediphenyl diisocyanate; diphenylmethane-4,4' -diisocyanate (MDI)**
In the aquatic environment and terrestrial its diffusion is limited because of the reaction with water forming insoluble stable polyureas. In the atmospheric the material has a short life time.
12.4 Bioaccumulative potential
No data avalaible
12.5 Results of PBT assessment
For the component: **4,4'-Methylenediphenyl diisocyanate; diphenylmethane-4,4' -diisocyanate (MDI)**
The substance is not considered PBT
12.6 Other adverse effects
No data available

13) DISPOSAL CONSIDERATIONS
13.1 Waste treatment methods
The generation of waste should, if possible, be avoided or minimized. The recommended waste disposal method is by incineration in controlled and approved conditions, using suitable incinerators especially designed for the disposal of dangerous chemical waste. The empty containers should be left in the open air in order to allow complete polymerisation and then delivered to an authorized recycling company. All disposal methods must comply with EU Directives 91/156/EEC, 91/689/EEC and further modifications in line with National Laws and Regulations.
Type of waste
Cured: Adhesive/sealant waste C.E.R. code 080410
Not cured Polyurethane adhesive code 080402

14) TRANSPORT INFORMATION
Rail and Road Transport:
ADR/RID Product not considered as dangerous goods
Product name: U-Seal 501
Marine Transport:
IMDG Product not considered as dangerous goods
N.ONU
SEA POLLUTION: Not dangerous
EXACT TECHNICAL NAME: Polyurethane resin based sealant
Air Transport:
ICAO/IATA Product not considered as dangerous goods
N.ONU
EXACT TECHNICAL NAME : Polyurethane sealant
Further Information:
Not dangerous for transport
U-Seal 501 does not produce vapour or dust. Transport in a dry environment.

15) REGULATORY INFORMATION
15.1 Health and Safety specific norms
All the ingredients of this product are in the EINECS list or are exempt to be

16) OTHER INFORMATION
No further technical information provided.
R-Phrases referred to chapter 3
R10: Flammable
R20/21: Harmful by inhalation and skin contact
R36/37/38: Irritating to eyes, respiratory system and skin.
R40: Limited evidence of a carcinogenic effect.
R42/43: May cause sensitisation by inhalation and contact with skin.
R48/20: Harmful: danger of serious damage to health by prolonged exposure through inhalation.

The information contained in this Safety Data Sheet is provided in accordance with the National Chemical Regulations and EU –Directives. The product should not be used for purposes other than those shown in Section 1 without first referring to the supplier and obtaining written handling instructions. As the specific conditions of use of the product are outside the supplier's control, the user is responsible for ensuring that the requirements of relevant laws are complied with.

The information contained in these sheets is based on the present state of knowledge and current national legislation. It provides guidance on health, safety and environmental aspects and should not be construed as any guarantee of technical performance or suitability for particular applications.