

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1 Product identifier****Trade name:****ADHESIVE FOR POLYSTYRENE 250**

The polyurethane adhesive in the version with a gun applicator is used to attach Styrofoam panels.

1.2 Relevant identified uses of the substance or mixture and uses advised against**Life cycle stages**

C/PW Consumer use / Widespread use by professional workers

Sector of Use

SU19 Building and construction work

Product category

PC0 Other

Process category

PROC19 Manual activities involving hand contact

Environmental release category

ERC10b / ERC11b Widespread use of articles with high or intended release

Article category

AC0 Other

Application of the substance / the preparation

Assembly foam - Product for an industrial, technical and private use for processing on buildings. For all other uses is advised against/ not recommended.

1.3 Details of the supplier of the safety data sheet

Please comply with the information given under "Other Information" in section 16.

Manufacturer/Supplier:KREISEL - Technika Budowlana Sp. z o.o.
ul. Szarych Szeregów 23
60-462 Poznań
Poland

Tel. +48 61 846 79 00

Fax +48 61 846 79 09

sekretariat@kreisel.pl

www.kreisel.pl

Further information obtainable from:

Bartosz Polaczyk - Tel.: +48 510 022 908, +48 61 84 67 966, bartosz.polaczyk@kreisel.pl

On working days 8 a.m. - 4 p.m.

1.4 Emergency telephone number

National poisons information centre: +44/(0)171 - 635 9191

National Health Service: 111

European emergency call: 112

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 1)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Aerosol 1	H222-H229	Extremely flammable aerosol. Pressurised container: May burst if heated.
Acute Tox. 4	H332	Harmful if inhaled.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.
Resp. Sens. 1	H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
Skin Sens. 1	H317	May cause an allergic skin reaction.
Carc. 2	H351	Suspected of causing cancer.
Lact.	H362	May cause harm to breast-fed children.
STOT SE 3	H335	May cause respiratory irritation.
STOT RE 2	H373	May cause damage to organs through prolonged or repeated exposure.
Aquatic Acute 1	H400	Very toxic to aquatic life.
Aquatic Chronic 1	H410	Very toxic to aquatic life with long lasting effects.
PBT	EUH440	Accumulates in the environment and living organisms including in humans.

Additional information:

Aerosol cans are under constant pressure! Protect from sunlight and temperatures above 50 °C. Contact with air may result in the formation of explosive mixtures. Persons with high respiratory sensitivity (e.g. asthma, chronic bronchitis) must not come into contact with this product. Symptoms may persist for several hours in the case of respiratory overexposure. Dust, vapours and aerosols are particularly hazardous to the respiratory tract.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008

The product is classified and labelled according to the GB CLP regulation.

Hazard pictograms



GHS02 GHS07 GHS08 GHS09

Signal word

Danger

Hazard-determining components of labelling:

Diphenylmethanediisocyanate, isomeres and homologues (polymers)
Alkanes, C14-17, chloro
Tris(2-chloro-1-methylethyl) phosphate

Hazard statements

H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
H332 Harmful if inhaled.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.

(Contd. on page 3)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 2)

H351	Suspected of causing cancer.
H362	May cause harm to breast-fed children.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.
EUH440	Accumulates in the environment and living organisms including in humans.

Precautionary statements

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P260	Do not inhale gas/vapour.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P273	Avoid release to the environment.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
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.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P501	Dispose of contents/container in keeping with local and national regulations.

Additional information:

EUH066 Repeated exposure may cause skin dryness or cracking.
EUH204 Contains isocyanates. May produce an allergic reaction.

Restrictions according to Annex XVII of Regulation EC 1907/2006:

Handling this product can trigger allergic reactions in people who are already sensitized to diisocyanates. Avoid contact, including skin contact, with the product if you have asthma, eczema or skin problems. Do not use the product if there is insufficient ventilation or wear a protective mask with a suitable gas filter (type A1 according to EN 14387). Effective August 24, 2023, proper training must be provided prior to industrial or commercial use.

2.3 Other hazards

This product contains organic solvents. Avoid inhalation, skin contact, ingestion. In use, may form flammable / explosive vapour-air mixture. Repeated exposure may cause skin dryness or cracking.

Aerosol can explode if exposed to heat.

Results of PBT and vPvB assessment

PBT:

85535-85-9	Alkanes, C14-17, chloro
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vPvB:

85535-85-9	Alkanes, C14-17, chloro
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Determination of endocrine-disrupting properties

1244733-77-4	Tris(2-chloro-1-methylethyl) phosphate
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List II; III

SECTION 3: Composition/information on ingredients

3.1 Chemical characterization: Substances

This product is a mixture.

(Contd. on page 4)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 3)

3.2 Mixtures**Description:**

Mixture of substances listed below with nonhazardous additions

Dangerous components:

CAS: 9016-87-9 Polymer REACH: 01-2119457024-46	Diphenylmethanediisocyanate, isomeres and homologues (polymers) ⚠ Resp. Sens. 1, H334; Carc. 2, H351; STOT RE 2, H373; ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; Skin Sens. 1, H317; STOT SE 3, H335, EUH204 Specific concentration limits: Skin Irrit. 2; H315: C ≥ 5 % Eye Irrit. 2; H319: C ≥ 5 % Resp. Sens. 1; H334: C ≥ 0.1 % STOT SE 3; C ≥ 5 %	40 - 50%
CAS: 115-10-6 EINECS: 204-065-8 Index number:... 603-019-00-8 REACH: 01-2119472128-37	Dimethyl ether ⚠ Flam. Gas 1A, H220; Press. Gas (Comp.), H280	< 11%
CAS: 85535-85-9 EINECS: 287-477-0 Index number:... 602-095-00-X REACH: 01-2119519269-33	Alkanes, C14-17, chloro ⚠ Aquatic Acute 1, H400 (M=100); Aquatic Chronic 1, H410 (M=10); Lact., H362; PBT, EUH440, EUH066 PBT; vPvB	< 11%
CAS: 1244733-77-4 REACH: 01-2119486772-26	Tris(2-chloro-1-methylethyl) phosphate ⚠ Carc. 2, H351; ⚠ Acute Tox. 4, H302; Aquatic Chronic 3, H412	< 10%
CAS: 75-28-5 EINECS: 200-857-2 Index number:... 601-004-01-8 REACH: 01-2119485395-27	Isobutane ⚠ Flam. Gas 1A, H220; Press. Gas (Comp.), H280	< 4%
CAS: 74-98-6 EINECS: 200-827-9 Index number:... 601-003-00-5 REACH: 01-2119486944-21	Propane ⚠ Flam. Gas 1A, H220; Press. Gas (Comp.), H280	< 3%
CAS: 106-97-8 EINECS: 203-448-7 Index number:... 601-004-00-0 REACH: 01-2119474691-32	Butane, pure ⚠ Flam. Gas 1A, H220; Press. Gas (Comp.), H280	< 3%

Additional information:

For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

First aid

General information:

Seek medical treatment in case of complaints. In case of unconsciousness give nothing by mouth, place in unconscious position. Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident. For first responder no special personal protective equipment is required. First responder should avoid contact with the product.

(Contd. on page 5)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 4)

After inhalation:

Take affected persons into fresh air and keep quiet. Seek medical treatment in case of complaints. In case of irregular breathing or respiratory arrest provide artificial respiration. In case of unconsciousness place patient stably in side position for transportation.

After skin contact:

Immediately remove all soiled and contaminated clothing. Treat affected skin with cotton wool or cellulose. Then wash and rinse thoroughly with water and a mild cleaning agent. Do not use solvents and thinners. Avoid sunlight and UV light (sensitisation). If skin irritation continues, consult a doctor.

After eye contact:

Do not rub eyes because additional damage to eyes can be caused by mechanical stress. If necessary, remove contact lenses and flush the eye immediately while holding eyelids open to water for at least 20 minutes. If possible, isotonic eyewash solution (e. g. 0,9% NaCl). Always consult an occupational physician or ophthalmologist.

After swallowing:

Do not induce vomiting. If conscious rinse mouth with water and drink plenty of water. Consult a physician or poison control center.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms and effects are described in section 2 and 11.

Inhaling solvents can cause headaches, dizziness, fatigue, muscle weakness, anaesthesia and unconsciousness. Long-term high dosis can result in coma or death.

Hazards:

Inhalation of solvent concentrations above the MAC value can result in irritation of the mucosa and respiratory organs, kidney and liver damages as well as cause adverse effect on the central nervous system. Signs and symptoms: headaches, dizziness, fatigue, muscle weakness, numbing effect. Longer and repeated contact affects the natural adipogenesis of the skin and results in the desiccation of the skin. The product can enter the body through the skin. Solvent splatters can cause irritation of the eyes and reversible damages.

4.3 Indication of any immediate medical attention and special treatment needed

If a physician is to be consulted, as per possibility he should be presented this safety data sheet.

SECTION 5: Firefighting measures

5.1 Extinguishing media**Suitable extinguishing agents:**

CO₂, powder or water spray. Fight larger fire with alcohol resistant foam.

For safety reasons unsuitable extinguishing agents:

Water with full jet

5.2 Special hazards arising from the substance or mixture

Dense black smoke occurs during fire. Inhaling hazardous decomposition products can cause serious health damage.

Gas/vapor spreads on floor - danger of ignition.

The products contain highly flammable vapours and liquids. In case of fire, smoke is produced, carbon oxides, soot, hydrocarbons and aldehydes may be formed due to imperfect combustion and thermolysis. Risk of bursting when heated. Explosive vapour/air mixtures. Vapours are heavier than air. Re-ignition at distant ignition sources is possible due to dispersion near the ground.

5.3 Advice for firefighters

No special measures required. Collect contaminated fire fighting water separately. It must not enter the sewage system. Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

(Contd. on page 6)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 5)

Additional information:

Cool endangered receptacles with water spray. Collect contaminated fire fighting water separately. It must not enter the sewage system. Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Keep away from ignition sources. Avoid inhalation, eye and skin contact. Keep people at a distance and stay on the windward side. If appropriate, reference must be made to exposure controls and personal protection (see section 8).

6.2 Environmental precautions

Do not allow to enter sewers/ surface or ground water. Inform respective authorities in case of seepage into water course or sewage system.

6.3 Methods and material for containment and cleaning up

This material hardens automatically when exposed to air. Allow to solidify and pick up mechanically. Dispose of the material collected according to regulations.

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/exhaustion at the workplace. Avoid contact with the eyes and skin. Wear protective clothing. Washing facilities / Water for cleaning yes and skin should be available. Persons, who tend to skin diseases or other hypersensitivity reactions of the skin, should not handle the product. Do not eat, drink, smoke or sniff while working.

Information about fire - and explosion protection:

Keep ignition sources away - Do not smoke.

Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.

Do not spray onto a naked flame or any incandescent material.

Protect against electrostatic charges. Use explosion-proof apparatus / fittings and spark-proof tools. Wear shoes with conductive soles. Protect against electrostatic charges.

7.2 Conditions for safe storage, including any incompatibilities**Requirements to be met by storerooms and receptacles:**

Keep out of reach of children. Store product in ventilated conditions in well sealed original receptacles. Provide floor trough without outlet.

Information about storage in one common storage facility:

Store away from oxidising agents.

Keep away from foodstuffs, beverages and feed.

Further information about storage conditions:

Protect from frost. Protect from heat and direct sunlight.

Minimum storage life:

Minimum storage life (+5°C up to 25°C): See indication on package.

(Contd. on page 7)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 6)

Storage class: 2 B**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:****9016-87-9 Diphenylmethanediisocyanate, isomeres and homologues (polymers)**

WEL (Great Britain)	Short-term value: 0.07 mg/m ³ Long-term value: 0.02 mg/m ³ Sen; as -NCO
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115-10-6 Dimethyl ether

WEL (Great Britain)	Short-term value: 958 mg/m ³ , 500 ppm Long-term value: 766 mg/m ³ , 400 ppm
IOELV (EU)	Long-term value: 1920 mg/m ³ , 1000 ppm

106-97-8 Butane, pure

WEL (Great Britain)	Short-term value: 1810 mg/m ³ , 750 ppm Long-term value: 1450 mg/m ³ , 600 ppm Carc (if more than 0.1% of buta-1.3-diene)
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DNELs**9016-87-9 Diphenylmethanediisocyanate, isomeres and homologues (polymers)**

Inhalative	Systemic - Long term exposure	0.025 mg/m ³ (Consumer) 0.05 mg/m ³ (Employee)
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115-10-6 Dimethyl ether

Inhalative	Systemic - Long term exposure	471 mg/m ³ (Consumer) 1,894 mg/m ³ (Employee)
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85535-85-9 Alkanes, C14-17, chloro

Oral	Long term exposure	0.58 mg/kg bw/d (Consumer)
Dermal	Systemic - Long term exposure	28.75 mg/kg bw/d (Consumer) 47.9 mg/kg bw/d (Employee)
Inhalative	Systemic - Long term exposure	2 mg/m ³ (Consumer) 6.7 mg/m ³ (Employee)

1244733-77-4 Tris(2-chloro-1-methylethyl) phosphate

Oral	Long term exposure	0.52 mg/kg bw/d (Consumer)
Dermal	Systemic - Long term exposure	1.04 mg/kg bw/d (Consumer) 2.91 mg/kg bw/d (Employee)
Inhalative	Systemic - Long term exposure	1.45 mg/m ³ (Consumer) 8.2 mg/m ³ (Employee)
	Systemic - Short term exposure	5.6 mg/m ³ (Consumer) 22.6 mg/m ³ (Employee)

PNECs**115-10-6 Dimethyl ether**

Freshwater	0.155 mg/l (not specified)
Marine water	0.016 mg/l (not specified)
Soil	0.045 mg/kg (not specified)
Sediments (Freshwater)	0.681 mg/kg (not specified)

(Contd. on page 8)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 7)

	Sediments (Marine water)	0.069 mg/kg (not specified)
	Sewage plant	160 mg/l (not specified)
85535-85-9 Alkanes, C14-17, chloro		
	Freshwater	0.001 mg/l (not specified)
	Marine water	0.002 mg/l (not specified)
	Sediments (Freshwater)	13 mg/kg (not specified)
	Sediments (Marine water)	2.6 mg/kg (not specified)
	Sewage plant	80 mg/l (not specified)
1244733-77-4 Tris(2-chloro-1-methylethyl) phosphate		
Oral	PNEC Oral	11.6 mg/kg (not specified)
	Freshwater	0.32 mg/l (not specified)
	Marine water	0.032 mg/l (not specified)
	Soil	0.34 mg/kg (not specified)
	Sediments (Freshwater)	11.5 mg/kg (not specified)
	Sediments (Marine water)	1.15 mg/kg (not specified)
	Sewage plant	19.1 mg/l (not specified)

Ingredients with biological limit values:

Void

Additional information:

The lists valid during the making were used as basis.

8.2 Exposure controls**8.2.1. Information about design of technical facilities**

Ensure good ventilation. This can be achieved by using a local exhaustion or general exhaust system. If these measures are insufficient to keep the solvent vapour concentration below the workplace limit, wear an adequate respiratory protective device.

8.2.2. Individual protection measures, such as personal protective equipment**General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed. Remove contaminated clothing immediately and thoroughly clean it before using it again. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin. Do not eat, drink, smoke or sniff while working. Use skin protection cream for skin protection. Ensure that washing facilities are available at the work place.

Respiratory protection:

This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (Type A1 according to standard EN 14387) is used.

Hand protection:

Hand protection: Chemical resistant protective gloves according EN ISO 374

The glove material has to be impermeable and resistant to the product. Due to missing tests no recommendation to the glove material can be given for the product. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation. Check protective gloves prior to each use for their proper condition. Preventive skin protection by use of skin-protecting agents is recommended. To avoid skin problems reduce the wearing of gloves to the required minimum.

(Contd. on page 9)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 8)

Material of gloves:

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 preparation 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.

For the permanent contact gloves made of the following materials are suitable:

Polychloroprene (material thickness ≥ 0.5 mm ; breakthrough time ≥ 480 min.)

Nitrile rubber (material thickness ≥ 0.35 mm ; breakthrough time ≥ 480 min.)

Butyl rubber (material thickness ≥ 0.5 mm ; breakthrough time ≥ 480 min.)

Fluororubber (material thickness ≥ 0.4 mm ; breakthrough time ≥ 480 min.)

Neoprene (material thickness ≥ 0.5 mm ; breakthrough time ≥ 480 min.)

PE gloves

Not suitable are gloves made of the following materials:

Non-liquid-tight gloves made of fabric, leather or similar materials.

Rubber gloves

PVC gloves

Eye/face protection:

In case of splash risk use tightly fitting safety goggles according to EN 166.

Body protection:

Solvent resistant protective clothing

Risk management measures:

An operator training/guidance in the correct use of personal protective equipment is necessary to ensure the required level of effectiveness.

8.2.3. Environmental exposure controls

Avoid release in the environment. Use the surplus or dispose it of properly.

Inform respective authorities in case of seepage into water course or sewage system.

Do not allow product to reach sewage system or any water course.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties**General Information****Physical state**

Aerosol

Appearance:**Form:**

Aerosol

Colour:

Yellowish

Odour:

Characteristic

Odour threshold:

Not safety relevant

pH

Mixture reacts violently with water.

Change in condition**Melting point/freezing point:**

Undetermined

(Contd. on page 10)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 9)

Boiling point or initial boiling point and boiling range	-42.1 - 0 °C (-43.8 - 32 °F)
Flammability	
Flash point:	-95 °C (-139 °F) (DIN 53171)
Auto-ignition temperature:	> 200 °C (> 392 °F)
Oxidising properties:	None
Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
Lower and upper explosion limit	
Lower:	1.5 Vol %
Upper:	10.9 Vol %
Ignition temperature:	Not determined
Vapour pressure at 20 °C (68 °F):	1,200 - 7,500 hPa (0.900 - 5.600 mm Hg)
Density and/or relative density	
Density at 20 °C (68 °F):	1.2 g/cm ³ (10.01 lbs/gal)
Particle size	
Solubility	
Water:	Not miscible or difficult to mix
Partition coefficient n-octanol/water (log value)	Not determined
Solvent content:	
Organic solvents:	< 14.0 %
VOC without water (EC):	< 252.00 g/l
VOC with water (EC):	< 252.00 g/l
VOC with water (EC):	< 21.000 %

9.2 Other information

Information with regard to physical hazard classes

Explosives	Void
Flammable gases	Void
Aerosols	Extremely flammable aerosol. Pressurised container: May burst if heated.
Oxidising gases	Void
Gases under pressure	Void
Flammable liquids	Void
Flammable solids	Void
Self-reactive substances and mixtures	Void
Pyrophoric liquids	Void
Pyrophoric solids	Void
Self-heating substances and mixtures	Void
Substances and mixtures, which emit flammable gases in contact with water	Void
Oxidising liquids	Void
Oxidising solids	Void
Organic peroxides	Void
Corrosive to metals	Void
Desensitised explosives	Void

SECTION 10: Stability and reactivity

10.1 Reactivity

No further relevant information available.

(Contd. on page 11)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 10)

10.2 Chemical stability:

The product is stable as long as it is stored properly and dry.

Thermal decomposition / conditions to be avoided:

Formation of toxic gases is possible during heating or in case of fire.

10.3 Possibility of hazardous reactions

Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomised.
Exothermic polymerisation.

Reacts with alcohols, amines, aqueous acids and alkalis.

Danger of receptacles bursting because of high vapour pressure when heated.

Reacts with acids, alkalis and oxidising agents.

10.4 Conditions to avoid

Keep away from heat and direct sunlight.

Do not spray onto a naked flame or any incandescent material.

10.5 Incompatible materials

No further relevant information available.

10.6 Hazardous decomposition products

Formation of toxic gases is possible during heating or in case of fire.

Additional information:

No further relevant information available.

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**Acute toxicity:**

Harmful if inhaled.

LD/LC50 values relevant for classification:**ATE (Acute Toxicity Estimates)**

Oral	LD ₅₀	> 6,320 mg/kg (Rat)
Inhalative	LC ₅₀ (4h)	3 - 3.75 mg/l

9016-87-9 Diphenylmethanediisocyanate, isomeres and homologues (polymers)

Oral	LD ₅₀	> 10,000 mg/kg (Rat)
Dermal	LD ₅₀	> 5,000 mg/kg (Rabbit)
Inhalative	LC ₅₀ (4h)	1.5 mg/l (ATE)

115-10-6 Dimethyl ether

Inhalative	LC ₅₀ (4h)	309 mg/l (Rat)
	LC ₅₀ (4h)	163,991 ppm (Rat)

85535-85-9 Alkanes, C14-17, chloro

Oral	LD ₅₀	> 2,000 mg/kg (Rat)
Dermal	LD ₅₀	> 2,500 mg/kg (Rat)

1244733-77-4 Tris(2-chloro-1-methylethyl) phosphate

Oral	LD ₅₀	632 mg/kg (Rat)
Dermal	LD ₅₀	> 2,000 mg/kg (Rat) (OECD 402)

74-98-6 Propane

Inhalative	LC ₅₀ (4h)	280,000 ppm (Rat)
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106-97-8 Butane, pure

Inhalative	LC ₅₀ (4h)	1,442 mg/l (Rat)
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(Contd. on page 12)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 11)

Other information (about experimental toxicology):

85535-85-9 Alkanes, C14-17, chloro

Oral	OECD 414 (Prenatal Developmental Toxicity)	100 /NOAEL (Rabbit)
	OECD 408 (Repeated dose oral toxicity 90d)	300 mg/kg bw/day /NOAEL (Rat)
Irritation of skin	OECD 404 (skin)	(Rabbit) slightly irritating
Irritation of eyes	OECD 405 (eye)	(Rabbit) slightly irritating
Sensitisation	OECD 406 (sensitization)	(Guinea pig) not sensitizing
	OECD 475 (In vivo - Chromosome aberration test)	(Rat) negative
1244733-77-4 Tris(2-chloro-1-methylethyl) phosphate		
Oral	OECD 414 (Prenatal Developmental Toxicity)	(Rabbit) No effects observed
	OECD 476 (In vitro - Mutation)	(Lymphocytes) Positive
Irritation of skin	OECD 404 (skin)	(Rabbit) Not irritating
Irritation of eyes	OECD 405 (eye)	(Rabbit) Not irritant
Sensitisation	OECD 429 (LLNA)	(Mouse) Not sensitizing
	OECD 416 (Two-Generation Reproduction)	(Rat) No effects observed
106-97-8 Butane, pure		
Oral	OECD 414 (Prenatal Developmental Toxicity)	(Rat) no effects observed
	OECD 471 (In vitro - Mutation, Ames-Test)	(Salmonella typhimurium) negative
Inhalative	OECD 413 (Subchronic inhalation toxicity 90d)	mg/l (Rat) no effects observed
	OECD 474 (In vivo - Micro nucleous test)	(Rat) negative

Primary irritant effect:

On the skin:

Causes skin irritation.

On the eye:

Causes serious eye irritation.

Sensitization:

Sensitising effect by skin contact is possible by prolonged exposure.

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

May cause an allergic skin reaction.

Germ cell mutagenicity:

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

Carcinogenicity:

Suspected of causing cancer.

(Contd. on page 13)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 12)

Reproductive toxicity:

May cause harm to breast-fed children.

Specific target organ toxicity - single exposure (STOT SE):

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure (STOT RE):

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard:

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

Practical experience

No further relevant information available.

General comments

No further relevant information available.

Subacute to chronic toxicity:

Inhalation of solvent concentrations above the MAC value can result in irritation of the mucosa and respiratory organs, kidney and liver damages as well as cause adverse effect on the central nervous system. Signs and symptoms: headaches, dizziness, fatigue, muscle weakness, numbing effect. Longer and repeated contact affects the natural adipogenesis of the skin and results in the desiccation of the skin. The product can enter the body through the skin. Solvent spatters can cause irritation of the eyes and reversible damages.

11.2 Information on other hazards

In case of overexposure, there is a risk of irritant effect on eyes, nose, larynx and respiratory tract independent of concentration. Later occurrence of complaints (breathing difficulties, coughing, asthma) is possible. In hypersensitive persons, reactions may occur even at very low concentrations of isocyanate. Prolonged contact with the skin may cause dehydration and irritation.

Endocrine disrupting properties

1244733-77-4 Tris(2-chloro-1-methylethyl) phosphate

List II; III

SECTION 12: Ecological information

12.1 Toxicity**Aquatic toxicity:**

At present there are no toxicological assessments available for this product. All recommendations and information are based on the method of calculation.

9016-87-9 Diphenylmethanediisocyanate, isomeres and homologues (polymers)

LC ₅₀ (96h)	> 1,000 mg/l (Water plants)
EC ₅₀	> 100 mg/l (Activated sludge organisms) (OECD 209)

115-10-6 Dimethyl ether

LC ₅₀ (96h)	> 4.1 mg/l (Guppy - poecilia reticulata) (NEN 6504)
LC ₅₀ (48h)	> 4.4 mg/l (Water flea - daphnia magna) (NEN 6501)
EC ₁₀	> 1,600 mg/l (Pseudomonas putida)
EC ₅₀ (96h)	154.9 mg/l (Algae - desmodesmus subspicatus)

85535-85-9 Alkanes, C14-17, chloro

LC ₅₀ (96h)	> 1 mg/l (Water flea - daphnia magna)
EC ₅₀ (96h)	> 3.2 mg/l (Algae)

1244733-77-4 Tris(2-chloro-1-methylethyl) phosphate

LC ₅₀ (96h)	51 mg/l (Fat head minnow - pimephales promelas)
EC ₅₀ (48h)	131 mg/l (Water flea - daphnia magna)
EC ₅₀ (3h)	784 mg/l (Activated sewage sludge) (ISO 8192)

(Contd. on page 14)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 13)

EC ₁₀ (72h)	42 mg/l (Algae - pseudokirchneriella subcapitata) (OECD 201)
NOEC (21d)	32 mg/l (Water flea - daphnia magna) (OECD 202)
74-98-6 Propane	
LC ₅₀ (96h)	> 1,000 mg/l (Fish - pisces)
106-97-8 Butane, pure	
LC ₅₀	147.54 mg/l (Fish) (calculated) 7 - 69 mg/l (Aquatic invertebrates) (calculated)
EC ₅₀	7.71 - 16.5 mg/l (Algae)

12.2 Persistence and degradability

A part of the components is biodegradable.

Degree of elimination:	
9016-87-9 Diphenylmethanediisocyanate, isomeres and homologues (polymers)	
Biodegradation	< 60 % (not specified) (OECD 302C)
115-10-6 Dimethyl ether	
Biodegradation (28d)	5 % (Water) (OECD 301A)
1244733-77-4 Tris(2-chloro-1-methylethyl) phosphate	
Biodegradation (28d)	14 % (Activated sewage sludge) (OECD 301E)
75-28-5 Isobutane	
Biodegradation (35d)	72.6 % (Water)
Biodegradation (16 - 26d)	50 % (Water)
74-98-6 Propane	
Biodegradation	70 % (Water) (OECD 301E)

12.3 Bioaccumulative potential

115-10-6 Dimethyl ether	
Log Kow	0.1 (not specified)
1244733-77-4 Tris(2-chloro-1-methylethyl) phosphate	
Log Kow	2.68 (not specified)
75-28-5 Isobutane	
Log Kow	2.76 - 2.88 (not specified)
74-98-6 Propane	
Log Kow	2.3 (not specified)

Bioconcentration factor (BCF)

9016-87-9 Diphenylmethanediisocyanate, isomeres and homologues (polymers)	
Bioconcentration factor (BCF)	1 (Fish - pisces)
1244733-77-4 Tris(2-chloro-1-methylethyl) phosphate	
Bioconcentration factor (BCF)	0.8 (not specified) 14 d
75-28-5 Isobutane	
Bioconcentration factor (BCF)	20 - 52 (Fish - pisces)
74-98-6 Propane	
Bioconcentration factor (BCF)	9 - 25 (Fish - pisces)

12.4 Mobility in soil

Very limited by chemical reaction with water to form an insoluble product (polyurethane).

12.5 Results of PBT and vPvB assessment

PBT:	
85535-85-9	Alkanes, C14-17, chloro

(Contd. on page 15)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 14)

vPvB:

85535-85-9 Alkanes, C14-17, chloro

12.6 Endocrine disrupting properties

For information on endocrine disrupting properties see section 11.

12.7 Other adverse effects

Isocyanate reacts with water at the interface to form CO₂ and a solid, insoluble reaction product with a high dew point (polyurea). This reaction is strongly supported by surface-active substances (e.g. by liquid soaps) or solvents soluble in water. According to experience to date, polyurea is inert and non-degradable.

Literature

No further relevant information available.

Ecotoxicological effects:

No further relevant information available.

Remark:

Toxic for fish

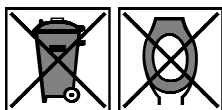
Behaviour in sewage processing plants:**1244733-77-4 Tris(2-chloro-1-methylethyl) phosphate**

OECD 303 A Activated Sludge Units 95 % (not specified)

Additional ecological information:**General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
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.
Toxic for aquatic organisms

SECTION 13: Disposal considerations

13.1 Waste treatment methods**Recommendation:**

Must not be disposed together with household garbage. Hand over to hazardous waste disposers.

Risk of environmental pollution. Follow the applicable regulations on waste disposal. Keep unused products and contaminated packaging sealed. Provide containers for waste collection. Hand over for disposal to a specialist company authorised to carry out such activities. Prevent the product from being released into the environment. Do not allow the product to enter the sewage system. Must not be disposed of with municipal waste. Empty containers can be utilised for energy recovery in a waste incineration plant or, if classified accordingly, collected at a landfill site. Perfectly cleaned packaging can be recycled.

Dispose of contents/container in accordance with local/regional/national/international regulations.

European waste catalogue

16 05 04*	gases in pressure containers (including halons) containing hazardous substances
08 04 09*	Waste adhesives and sealants containing organic solvents or other hazardous substances
15 01 10*	packaging containing residues of or contaminated by hazardous substances
HP3	Flammable
HP4	Irritant - skin irritation and eye damage

(Contd. on page 16)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 15)

HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity
HP7	Carcinogenic
HP13	Sensitising
HP14	Ecotoxic

Uncleaned packaging**Recommendation:**

Disposal must be made according to official regulations.
Recycle only completely emptied packaging.

SECTION 14: Transport information

**14.1 UN number or ID number
ADR, IMDG, IATA**

UN1950

14.2 UN proper shipping name**ADR**

1950 AEROSOLS, ENVIRONMENTALLY HAZARDOUS

IMDG

AEROSOLS

IATA

AEROSOLS, flammable

14.3 Transport hazard class(es)**ADR**
**Class
Label**

 2 5F Gases.
2.1
IMDG
**Class
Label**

 2.1 Gases.
2.1
IATA
**Class
Label**

 2.1 Gases.
2.1

**14.4 Packing group
ADR, IMDG, IATA**

Void

14.5 Environmental hazards**Marine pollutant:**

Symbol (fish and tree)

Special marking (ADR):

Symbol (fish and tree)

(Contd. on page 17)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 16)

14.6 Special precautions for user**Hazard identification number (Kemler code):** -**EMS Number:****Stowage Code****Segregation Code**

Warning: Gases.

F-D,S-U

SW1 Protected from sources of heat.

SW22 For AEROSOLS with a maximum capacity of 1 litre: Category A. For AEROSOLS with a capacity above 1 litre: Category B. For WASTE AEROSOLS: Category C, Clear of living quarters.

SG69 For AEROSOLS with a maximum capacity of 1 litre:

Segregation as for class 9. Stow "separated from" class 1 except for division 1.4.

For AEROSOLS with a capacity above 1 litre:

Segregation as for the appropriate subdivision of class 2.

For WASTE AEROSOLS:

Segregation as for the appropriate subdivision of class 2.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable

Transport/Additional information:**ADR****Limited quantities (LQ)**

1L

Excepted quantities (EQ)

Code: E0

Not permitted as Excepted Quantity

Transport category

2

Tunnel restriction code

D

IMDG**Limited quantities (LQ)**

1L

Excepted quantities (EQ)

Code: E0

Not permitted as Excepted Quantity

UN "Model Regulation":

UN 1950 AEROSOLS, 2.1, ENVIRONMENTALLY HAZARDOUS

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**Poisons Act****Regulated explosives precursors**

None of the ingredients is listed.

Regulated poisons

None of the ingredients is listed.

Reportable explosives precursors

None of the ingredients is listed.

Reportable poisons

None of the ingredients is listed.

(Contd. on page 18)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 17)

Directive (EU) 2012/18**Named dangerous substances - ANNEX I :**

None of the ingredients is listed.

Seveso category:

E1 Hazardous to the Aquatic Environment

P3a FLAMMABLE AEROSOLS

Qualifying quantity (tonnes) for the application of lower-tier requirements: 100 t**Qualifying quantity (tonnes) for the application of upper-tier requirements:** 200 t**National regulations:****Information about limitation of use:**

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

Waterhazard class:

Water hazard class 2 (Self-assessment): Hazardous for water

Other regulations, limitations and prohibitive regulations:

·Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (UK REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

·Commission Regulation (EU) No 878/2020 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (UK REACH)

·Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006

·Regulation (EC) No 1013/2006 of the European Parliament and of the Council of 14 June 2006 on shipments of waste

·Regulation (EC) No 528/2012 of the European Parliament and of the Council of 22 May 2012 concerning the making available on the market and use of biocidal products

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

Reasons for changes:

* Data compared to the previous version altered.

Relevant phrases:

EUH440 Accumulates in the environment and living organisms including in humans.

H220 Extremely flammable gas.

H280 Contains gas under pressure; may explode if heated.

H302 Harmful if swallowed.

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.

(Contd. on page 19)

ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 18)

- H362 May cause harm to breast-fed children.
 H373 May cause damage to organs through prolonged or repeated exposure.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
 H412 Harmful to aquatic life with long lasting effects.
 EUH066 Repeated exposure may cause skin dryness or cracking.
 EUH204 Contains isocyanates. May produce an allergic reaction.

Advice for instructions:

Additional trainings, which go beyond the prescribed training in activities involving hazardous substances are not required.

Classification according to Regulation (EC) No 1272/2008

Aerosols, Section 2.3.1	Bridging principles
Acute toxicity - inhalation Hazardous to the aquatic environment - long-term (chronic) aquatic hazard	Expert judgement
Skin corrosion/irritation Serious eye damage/irritation Respiratory sensitisation Skin sensitisation Carcinogenicity Reproductive toxicity Specific target organ toxicity (single exposure) Specific target organ toxicity (repeated exposure) Hazardous to the aquatic environment - short-term (acute) aquatic hazard Persistent, bioaccumulative and toxic	The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

Department issuing MSDS:

Product safety department (+43/(0)5522-41646-0 / klaus.ritter@fixit-gruppe.com)

Contact:

Dr. Klaus Ritter

Abbreviations and acronyms:

MAK: Maximale Arbeitsplatz-Konzentration (maximum concentration of a chemical substance in the workplace, Austria/Germany)
 PBT: persistent, bioaccumulative and toxic properties
 vPvB: very persistent, bioaccumulative properties
 ADR: Accord relatif au transport international 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 (UK REACH)
 PNEC: Predicted No-Effect Concentration (UK REACH)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 ATE: Acute toxicity estimate values
 Flam. Gas 1A: Flammable gases – Category 1A
 Aerosol 1: Aerosols – Category 1
 Press. Gas (Comp.): Gases under pressure – Compressed gas
 Acute Tox. 4: Acute toxicity – Category 4
 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

(Contd. on page 20)

Safety data sheet
according to UK REACH**KREISEL®**

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ADHESIVE FOR POLYSTYRENE 250

(Contd. of page 19)

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

Lact.: Reproductive toxicity – effects on or via lactation

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2

Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1

Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

Further information:

The information in this safety data sheet describe the safety requirements of our product and is based on our current state of our knowledge. They provide no assurance of product quality. Existing laws, ordinances and regulations, including those that are not mentioned in this data sheet must be observed by the recipient of our products in their own responsibility.

GB