

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

Product identifier**Trade name:****Adhesive for polystyrene 250**

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

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.

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.

Emergency telephone number

National poisons information centre: +44/(0)171 - 635 9191
National Health Service: 111
European emergency call: 112

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SECTION 2: Hazards identification

Classification of the substance or mixture

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 Chronic 1	H410	Very toxic to aquatic life with long lasting effects.

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.

Label elements

GHS label elements

The product is classified and labelled according to the Globally Harmonised System (GHS).

Hazard pictograms



GHS02 GHS07 GHS08 GHS09

Signal word

Danger

Hazard-determining components of labelling:

Diphenylmethanediisocyanate, isomeres and homologues (polymers)

Alkanes, C14-17, chloro

Butane, pure

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.
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.

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H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

- 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 breathe mist/vapours/spray.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing 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:

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.

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

vPvB:

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

SECTION 3: Composition/information on ingredients

Chemical characterization: Substances

This product is a mixture.

Mixtures**Description:**

Mixture of substances listed below with nonhazardous additions

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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: 13674-84-5 EINECS: 237-158-7 REACH: 01-2119447716-31	Tris(2-chlorisopropyl)-phosphate ⚠ Acute Tox. 4, H302	<10%
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; Aquatic Chronic 1, H410; Lact., H362, EUH066 PBT; vPvB	<10%
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	1-<8%
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	1-<8%
CAS: 106-97-8 EINECS: 203-448-7 Index number: ... 601-004-00-0 REACH: 01-2119474691-32	Butane, pure ⚠ Flam. Gas 1A, H220; ⚠ Acute Tox. 3, H331; Press. Gas (Comp.), H280	1-<8%

Additional information:

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

SECTION 4: First aid measures

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.

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.

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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.

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 spatters can cause irritation of the eyes and reversible damages.

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**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

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.

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.

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.

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SECTION 6: Accidental release measures**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).

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.

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.

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**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 eyes 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.

Conditions for safe storage, including any incompatibilities**Storage:****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.

Storage class: 2 B

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Specific end use(s)

No further relevant information available.

SECTION 8: Exposure controls/personal protection

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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13674-84-5 Tris(2-chlorisopropyl)-phosphate

Oral	Long term exposure	0.33 mg/kg bw/d (Consumer)
	Short term exposure	0.33 mg/kg bw/d (Consumer)
Dermal	Systemic - Long term exposure	0.264 mg/kg bw/d (Consumer) 0.528 mg/kg bw/d (Employee)
	Systemic - Short term exposure	0.264 mg/kg bw/d (Consumer) 0.528 mg/kg bw/d (Employee)
Inhalative	Systemic - Long term exposure	0.23 mg/m ³ (Consumer) 0.93 mg/m ³ (Employee)
	Systemic - Short term exposure	0.23 mg/m ³ (Consumer) 0.93 mg/m ³ (Employee)

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)
	Systemic - Long term exposure	2 mg/m ³ (Consumer) 6.7 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)

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	Soil	0.045 mg/kg (not specified)
	Sediments (Freshwater)	0.681 mg/kg (not specified)
	Sediments (Marine water)	0.069 mg/kg (not specified)
	Sewage plant	160 mg/l (not specified)
13674-84-5 Tris(2-chlorisopropyl)-phosphate		
Oral	PNEC Oral	11,600 mg/kg (not specified)
	Freshwater	0.64 mg/l (not specified)
	Marine water	0.064 mg/l (not specified)
	Soil	1.7 mg/kg (not specified)
	Sediments (Freshwater)	2.92 mg/kg (not specified)
	Sediments (Marine water)	0.29 mg/kg (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)

Ingredients with biological limit values:

Void

Additional information:

The lists valid during the making were used as basis.

Exposure controls**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.

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

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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.

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.

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

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.

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Change in condition	
Melting point/freezing point:	Undetermined
Boiling point or initial boiling point and boiling range	-42 - 0 °C (-43.6 - 32 °F)
Flammability	
Flash point:	-80 °C (-112 °F) (DIN 53171)
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
Solvent content:	
Organic solvents:	< 13.5 %
VOC without water (EC):	< 222.00 g/l
VOC with water (EC):	< 222.00 g/l
VOC with water (EC):	< 18.500 %

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

Reactivity

No further relevant information available.

Chemical stability:

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

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Thermal decomposition / conditions to be avoided:

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

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.

Conditions to avoid

Keep away from heat and direct sunlight.

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

Incompatible materials

No further relevant information available.

Hazardous decomposition products

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

Minimum storage life:
Additional information:

No further relevant information available.

SECTION 11: Toxicological information

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	> 10,110 - 18,240 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)

13674-84-5 Tris(2-chlorisopropyl)-phosphate

Oral	LD ₅₀	1,011 - 1,824 mg/kg (Rat) (OECD 401)
Dermal	LD ₅₀	> 2,000 mg/kg (Rat) (OECD 402)
		> 2,000 mg/kg (Rabbit) (OECD 402)
Inhalative	LC ₅₀ (4h)	> 5 mg/l (Rat)

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

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

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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Other information (about experimental toxicology):		
13674-84-5 Tris(2-chlorisopropyl)-phosphate		
Oral	OECD 414 (Prenatal Developmental Toxicity)	(Barcteria) (OECD 471 (in vitro)) (Mouse) (OECD 476 (in vitro)) (Rat) (OECD 475 (in vitro))
	OECD 473 (In vitro - Mutation)	(Rat) (OECD 416 (85 mg/kg for >10 weeks))
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
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

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.

Carcinogenicity:

Suspected of causing cancer.

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.

Practical experience

No further relevant information available.

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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.

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

None of the ingredients is listed.

SECTION 12: Ecological information

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)

13674-84-5 Tris(2-chlorisopropyl)-phosphate

LC ₅₀ (96h)	56.2 mg/l (Zebrafish - danio rerio)
EC ₅₀ (48h)	65 - 335 mg/l (Water flea - daphnia magna) (OECD 202)
EC ₅₀ (72h)	45 mg/l (Algae scenedesmus subcapitatus)
EC ₅₀ (96h)	73 mg/l (Algae) (OECD 201)

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)

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 (Invertebrate) (calculated)
EC ₅₀	7.71 - 16.5 mg/l (Algae)

Persistence and degradability

A part of the components is biodegradable.

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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)
13674-84-5 Tris(2-chlorisopropyl)-phosphate	
Biodegradation (28d)	14 % (Water) (OECD 301E)
Biodegradation (28d)	0 % (Water) (OECD 301C)
74-98-6 Propane	
Biodegradation	70 % (Water) (OECD 301E)
75-28-5 Isobutane	
Biodegradation (35d)	72.6 % (Water)
Biodegradation (16 - 26d)	50 % (Water)
Bioaccumulative potential	
115-10-6 Dimethyl ether	
Log Kow	0.1 (not specified)
13674-84-5 Tris(2-chlorisopropyl)-phosphate	
Log Kow	2.59 (not specified)
74-98-6 Propane	
Log Kow	2.3 (not specified)
75-28-5 Isobutane	
Log Kow	2.76 - 2.88 (not specified)
Bioconcentration factor (BCF)	
9016-87-9 Diphenylmethanediisocyanate, isomeres and homologues (polymers)	
Bioconcentration factor (BCF)	1 (Fish - pisces)
13674-84-5 Tris(2-chlorisopropyl)-phosphate	
Bioconcentration factor (BCF)	0.8 - 4.6 (Carp - cyprinus carpio)
74-98-6 Propane	
Bioconcentration factor (BCF)	9 - 25 (Fish - pisces)
75-28-5 Isobutane	
Bioconcentration factor (BCF)	20 - 52 (Fish - pisces)

Mobility in soil

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

Results of PBT and vPvB assessment

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

Endocrine disrupting properties

The product does not contain substances with endocrine disrupting properties.

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.

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Literature

No further relevant information available.

Ecotoxicological effects:

No further relevant information available.

Remark:

Toxic for fish

Behaviour in sewage processing plants:

No further relevant information available.

Additional ecological information:**General notes:**

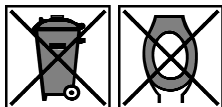
Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

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

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
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.

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Recycle only completely emptied packaging.

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SECTION 14: Transport information

UN number or ID number
ADR, IMDG, IATA

UN1950

UN proper shipping name

ADR

1950 AEROSOLS, ENVIRONMENTALLY HAZARDOUS

IMDG

AEROSOLS

IATA

AEROSOLS, flammable

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

Packing group
ADR, IMDG, IATA

Void

Environmental hazards

Marine pollutant:

Symbol (fish and tree)

Special marking (ADR):

Symbol (fish and tree)

Special precautions for user

Warning: Gases.

Hazard identification number (Kemler code): -

EMS Number:

F-D,S-U

Stowage Code

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 Code

Segregation as for class 9. Stow "separated from"

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	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.
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

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.

GHS label elements

The product is classified and labelled according to the Globally Harmonised System (GHS).

Hazard pictograms



GHS02 GHS07 GHS08 GHS09

Signal word Danger

Hazard-determining components of labelling:

Diphenylmethanediisocyanate, isomeres and homologues (polymers)
Alkanes, C14-17, chloro

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Butane, pure

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.
 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.

Precautionary statements

- 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 breathe mist/vapours/spray.
 P271 Use only outdoors or in a well-ventilated area.
 P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing 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.

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.

Biozide ingredients (528/2012/EG):

Data based on recipe and information on the raw materials from the supply chain.

None of the ingredients is listed.

Classification according 2004/42/EG: Not applicable.**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/

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EC and 2000/21/EC

·Commission Regulation (EU) 2020/878 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) 1013/2006 on shipments of waste

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:

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.
 H331 Toxic if inhaled.
 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.
 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.
 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.

Literature and the data sources:

Department issuing MSDS:

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

Contact:

Dr. Klaus Ritter

Date of previous version: 06.09.2021

Version number of previous version: 4

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

EINECS: European Inventory of Existing Commercial Chemical Substances

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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. 3: Acute toxicity – Category 3
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
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

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.

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