SAFETY DATA SHEET

according to Regulation (EC) No 1907/2006 (REACH) as amended

POLYFIX R

Creation date	13th August 2024
Revision date	Version 2.1

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

1.1. Product identifier

Substance / mixture	POLYFIX R
Number	mixture
UFI	1 03.0008
	CTK0-7YUU-U20N-1U6J

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

Mixture's intended use

Glue. For professional use only.

Mixture uses advised against

The product should not be used in ways other than those referred in Section 1.

1.3. Details of the supplier of the safety data sheet

Supplier

Name or trade name	RETECH, s.r.o.
Address	Vackova 1541/4, Praha 5 - Stodůlky, 155 00 Czech Republic
Identification number (CRN)	25018205
VAT Reg No	CZ25018205
Phone	+420327596428
E-mail	info@retech.cz
Web address	www.retech.com

Competent person responsible for the safety data sheet

Name	RETECH, s.r.o.
E-mail	info@retech.cz

1.4. Emergency telephone number

European emergency number: 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification of the mixture in accordance with Regulation (EC) No 1272/2008

The mixture is classified as dangerous.

Skin Irrit. 2, H315
Eye Irrit. 2, H319
STOT SE 3, H335

Most serious adverse effects on human health and the environment

Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.

2.2. Label elements

Hazard pictogram

Signal word

Warning

Hazardous substances

ethyl 2-cyanoacrylate

Hazard statements

H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Precautionary statements

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to in accordance with national regulations.

Supplemental information

EUH202	Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children.

2.3. Other hazards

The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605. Mixture does not contain any substance meet the criteria for PBT or vPvB in accordance with Annex XIII of Regulation (EC) No. 1907/2006 (REACH) as amended.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Chemical characterization

Mixture.

Mixture contains these hazardous substances and substances with the highest permissible concentration in the working environment

Identification numbers	Substance name	Content in % weight	Classification according to Regulation (EC) No 1272/2008	Note
Index: 607-236-00-9 CAS: 7085-85-0 EC: 230-391-5 Registration number: 01-2119527766-29-0001	ethyl 2-cyanoacrylate	70-90	Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 EUH202 Specific concentration limit: STOT SE 3, H335: C ≥ 10 %	
Index: 604-005-00-4 CAS: 123-31-9 EC: 204-617-8 Registration number: 01-2119524016-51-0003	1,4-dihydroxybenzene	<1	Acute Tox. 4, H302 Skin Sens. 1, H317 Eye Dam. 1, H318 Muta. 2, H341 Carc. 2, H351 Aquatic Acute 1, H400 (M=10)	

Full text of all classifications and hazard statements is given in the section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

If any health problems are manifested or if in doubt, inform a doctor and show him information from this safety data sheet.

If inhaled

Terminate the exposure immediately; move the affected person to fresh air. Provide medical treatment if irritation, dyspnoea or other symptoms persist.

If on skin

Wash with plenty of soap and water. Do not pull bonded skin apart. It may be gently peeled apart using a blunt object such as a spoon, preferably after soaking in warm soapy water. Cyanoacrylates give off heat on solidification. In rare cases a large drop will generate enough heat to cause a burn. Burns should be treated normally after the adhesive has been removed from the skin. If lips are accidentally stuck together apply warm water to the lips and encourage maximum wetting and pressure from saliva inside the mouth. Do not try to pull the lips apart with direct opposing action. In the event of issues, find medical advice.

If in eyes

Rinse eyes immediately with a flow of running water. Remove contact lenses, if present and easy to do. Continue rinsing. If the eye is bonded closed, release eyelashes with warm water by covering with wet pad. Cyanoacrylate will bond to eye protein and will cause periods of weeping which will help to debond the adhesive. Keep eye covered until debonding is complete, usually within 1-3 days. Do not force eye open. Medical advice should be sought in case solid particles of cyanoacrylate trapped behind the eyelid cause any abrasive damage.

If swallowed

Ensure that breathing passages are not obstructed. The product will polymerise immediately in the mouth making it almost impossible to swallow. Saliva will slowly separate the solidified product from the mouth (several hours).

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

If inhaled

Mucous membranes may be irritated. The irritant effect in humans has been found in concentrations of 1.6 mg/m3 or 4.6 mg/m3, while 2-cyanoacrylate at a concentration of 0.2 mg/m3 did not cause adverse health effects. May cause respiratory irritation. May cause allergy or asthma symptoms if inhaled.

If on skin

Causes skin irritation. May cause an allergic skin reaction. Contamination of adhesive can generate enough heat to cause a burn.

If in eyes

Causes serious eye irritation.

If swallowed

not available

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

Symptomatic treatment. Provide medical treatment, specialized if possible.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Foam, carbon dioxide, powder, water mist.

Unsuitable extinguishing media

Water - full jet.

5.2. Special hazards arising from the substance or mixture

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Nitrogen oxides (NOx).

5.3. Advice for firefighters

Use a self-contained breathing apparatus and full-body protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Provide sufficient ventilation. Use personal protective equipment for work. Follow the instructions in the Sections 7 and 8. Do not inhale mist/vapours/spray. Prevent contact with skin and eyes.

6.2. Environmental precautions

Do not allow to enter drains.

6.3. Methods and material for containment and cleaning up

Do not use cloths for mopping up. Flood with water to complete polymerization and scrape off the floor. Cured material can be disposed of as non-hazardous waste.

6.4. Reference to other sections

See the Section 7, 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Do not inhale mist/vapours/spray. Use only outdoors or in a well-ventilated area. Prevent contact with skin and eyes. Wash hands and exposed parts of the body thoroughly after handling. Use personal protective equipment as per Section 8. Observe valid legal regulations on safety and health protection.

7.2. Conditions for safe storage, including any incompatibilities

Store in tightly closed containers in cold, dry and well ventilated areas designated for this purpose. Keep only in original packaging. Keep container tightly closed.

Storage temperature min 2 °C, max 8 °C

7.3. Specific end use(s)

not available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

The mixture contains substances for which occupational exposure limits are set.

DNEL

ethyl 2-cyanoacrylate			
Workers / consumers	Route of exposure	Value	Effect
Workers	Inhalation	9.25 mg/m³	Chronic effects systemic
Workers	Inhalation	9.25 mg/m³	Chronic effects local
Consumers	Inhalation	9.25 mg/m³	Chronic effects systemic
Consumers	Inhalation	9.25 mg/m³	Chronic effects local

Other information of limit values

LOAEL: 4,6 mg/m3. Irritation of eye tissue layers. May cause respiratory irritation. There may be shortness of breath.

8.2. Exposure controls

Follow the usual measures intended for health protection at work and especially for good ventilation. This can be achieved only by local suction or efficient general ventilation. If exposure limits cannot be observed in this mode, suitable protection of airways must be used. Do not eat, drink and smoke during work. Take off contaminated clothing. And wash it before reuse. Wash your hands thoroughly with water and soap after work and before breaks for a meal and rest. Prevent contact with skin and eyes. Regular cleaning of equipment, work area and clothing is recommended.

Eye/face protection

Protective goggles.

Skin protection

When handling in long-term or repeatedly, use protective gloves. Material of gloves: Nitrile rubber, NBR. Polyethylene or polypropylene gloves are recommended when using large volumes. Do not use PVC, rubber, nylon or cotton gloves. When choosing appropriate thickness, material and permeability of the gloves, observe recommendations of their particular manufacturer. Observe other recommendations of the manufacturer. Other protection: protective workwear.

Respiratory protection

Use a mask with filter when the exposition limits of the substances are exceeded or at the place with insufficient ventilation. Filter type B - maximum allowed concentration: B1 - less than 0.1% by volume; B2 - 0.1-0.5% by volume; B3 - 0.5-1% by volume. In case of oxygen deficiency (O2 content ≤ 17%), intensive or longer exposure (concentration of component higher than 1 %) use self-contained respiratory protective device. Self-contained breathing apparatus must be available in case of emergency.

Thermal hazard

Not available.

Environmental exposure controls

Observe usual measures for protection of the environment, see Section 6.2.

More information

Ensure control measures are regularly inspected and maintained.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	liquid
Colour	colourless
Odour	characteristic
Melting point/freezing point	-31 / -71 °C
Boiling point or initial boiling point and boiling range	150 °C (p = 100,3 kPa)
Flammability	data not available
Lower and upper explosion limit	data not available
Flash point	87 °C
Auto-ignition temperature	500 °C
Decomposition temperature	data not available
pH	non-soluble (in water)
Kinematic viscosity	data not available

Solubility in water	insoluble
Solubility acetone; acetonitrile	91.8 %; 96.5 %
Partition coefficient n-octanol/water (log value)	0.776
Vapour pressure	data not available
ethyl 2-cyanoacrylate (CAS: 7085-85-0)	≤21 at 20 °C
Density and/or relative density	data not available
Relative vapour density	data not available
Particle characteristics	data not available
Form	liquid: viscous

9.2. Other information

Explosive properties	The product does not have explosive properties.
Content of organic solvents (VOC)	20 g/l

SECTION 10: Stability and reactivity

10.1. Reactivity

not available

10.2. Chemical stability

The product is stable under normal conditions.

10.3. Possibility of hazardous reactions

The product will harden into a solid mass in contact with water and moisture.

10.4. Conditions to avoid

Moisture. Water.

10.5. Incompatible materials

Water, moisture, soil, amines, alkalis and alcohols.

10.6. Hazardous decomposition products

In the event of fire, carbon monoxide, carbon dioxide and other toxic gases may arise. Nitrogen oxides (NOx).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Toxicokinetics, metabolism and distribution: Probably cyanoacrylate may be absorbed in the digestive system. In animal studies, it was found that in the case of polymers of cyanoacrylates both monomers and polymers can be absorbed (the compounds were applied to the nasal mucosa of rats as monomers and the polymerization was carried out there) across mucosal tissue. Cyanoacrylate in vivo are metabolized to formaldehyde, thiocyanates, carbon dioxide and water (NTP).

Acute toxicity

Data for the mixture are not available. Based on the available data, the criteria for classification of the mixture are not met.

POLYFIX R						
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex
Oral	LD_{50}	OECD 401	>5000 mg/kg		Rat	
Dermal	LD_{50}	OECD 402	>2000 mg/kg		Rabbit	
Inhalation	LC_{50}		<21.11 mg/l	1 hour	Rat	

1,4-dihydroxybenzene						
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex
	ATE		150 mg/kg bw		Mouse	
	ATE		720 mg/kg bw		Rat	
Oral	LD_{50}		720 mg/kg bw		Rat	
Oral	LD_{50}		150 mg/kg bw		Mouse	
Subcutaneous	LD_{0}		300 mg/kg bw		Rat	

ethyl 2-cyanoacrylate						
Route of exposure	Parameter	Method	Value	Exposure time	Species	Sex
Oral	LD_{50}		>5 ml/kg bw		Rat	

Skin corrosion/irritation
Causes skin irritation. Data for the components of the mixture are not available.

Serious eye damage/irritation
Causes serious eye irritation. Data for the components of the mixture are not available.

Respiratory or skin sensitisation
No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

Germ cell mutagenicity
No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

Carcinogenicity
No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

Reproductive toxicity
No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

Toxicity for specific target organ - single exposure
May cause respiratory irritation. Data for the components of the mixture are not available.

Toxicity for specific target organ - repeated exposure
No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

Aspiration hazard
No data are available for either the mixture or the components. Based on the available data, the criteria for classification of the mixture are not met.

More information
A group of five female and five male rats were exposed to the cyanoacrylate at a concentration of 21.11 mg/l for 1 h. The animals were observed irritation of the respiratory tract, eyes and skin during the experiment. Mortality was 70% within four days after exposure (NTP). In dry atmosphere <50% humidity, vapors may irritate the eyes and respiratory tract. Prolonged exposure to high concentrations of vapors may lead in some cases to chronic irritation.

11.2. Information on other hazards
The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 12: Ecological information

12.1. Toxicity
A small ecotoxicity.

12.2. Persistence and degradability
Not applicable (impossible to assess due to the rapid polymerization of cyanoacrylate).

12.3. Bioaccumulative potential
Not applicable (impossible to assess due to the rapid polymerization of cyanoacrylate).

12.4. Mobility in soil

Not applicable (impossible to assess due to the rapid polymerization of cyanoacrylate).

12.5. Results of PBT and vPvB assessment

Product does not contain any substance meeting the criteria for PBT or vPvB in accordance with the Annex XIII of Regulation (EC) No 1907/2006 (REACH) as amended.

12.6. Endocrine disrupting properties

The mixture does not contain substances with endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

12.7. Other adverse effects

Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Proceed in accordance with valid regulations on waste disposal. Any unused product and contaminated packaging should be put in labelled containers for waste collection and submitted for disposal to a person authorised for waste removal (a specialized company) that is entitled for such activity. Cured product may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Polymerizes with: humidity. Empty containers may be used at waste incinerators to produce energy or deposited in a dump with appropriate classification. Do not empty unused product in drainage systems. The product must not be disposed of with municipal waste. Avoid release to the environment.

Waste management legislation

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste, as amended. Decision 2000/532/EC establishing a list of wastes, as amended.

Waste type code

08 04 09* waste adhesives and sealants containing organic solvents or other hazardous substances

Packaging waste type code

15 01 10* packaging containing residues of or contaminated by hazardous substances

(*) - Hazardous waste according to Directive 2008/98/EC on hazardous waste

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SECTION 14: Transport information

14.1. UN number or ID number

UN 3334

14.2. UN proper shipping name

Aviation regulated liquid, n.o.s.

14.3. Transport hazard class(es)

9 Miscellaneous dangerous substances and articles

14.4. Packing group

not relevant

14.5. Environmental hazards

No.

14.6. Special precautions for user

Reference in the Sections 4 to 8.

14.7. Maritime transport in bulk according to IMO instruments

not relevant

Additional information

Primary packs containing less than 500ml are unregulated by this mode of transport and can be delivered without restrictions.

Hazard identification No.	
UN number	**3334**

Road transport - ADR

Railway transport - RID

Air transport - ICAO/IATA

Packaging instructions passenger	964
Cargo packaging instructions	964

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Regulation (EC) No. 1907/2006 of the European Parliament and of the Council of 18th December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing the 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, as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. 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 (REACH).

15.2. Chemical safety assessment

A chemical safety assessment has not been carried out.

SECTION 16: Other information

A list of standard risk phrases used in the safety data sheet

EUH202	Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children.
H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.

Guidelines for safe handling used in the safety data sheet

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313	If skin irritation occurs: Get medical advice/attention.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to in accordance with national regulations.

Other important information about human health protection

The product must not be - unless specifically approved by the manufacturer/importer - used for purposes other than as per the Section 1. The user is responsible for adherence to all related health protection regulations.

Key to abbreviations and acronyms used in the safety data sheet

Acute Tox.	Acute toxicity
ADR	European agreement concerning the international carriage of dangerous goods by road
Aquatic Acute	Hazardous to the aquatic environment
BCF	Bioconcentration Factor
Carc.	Carcinogenicity
CAS	Chemical Abstracts Service
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substance and mixtures
EC	Identification code for each substance listed in EINECS
EINECS	European Inventory of Existing Commercial Chemical Substances
EmS	Emergency plan
EU	European Union
EuPCS	European Product Categorisation System
Eye Dam.	Serious eye damage
Eye Irrit.	Eye irritation
IATA	International Air Transport Association

IBC	International Code For The Construction And Equipment of Ships Carrying Dangerous Chemicals
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
INCI	International Nomenclature of Cosmetic Ingredients
ISO	International Organization for Standardization
IUPAC	International Union of Pure and Applied Chemistry
LC_{50}	Lethal concentration of a substance in which it can be expected death of 50% of the population
LD_0	Lethal dose of a substance in which it can be expected death of 0% of the population
LD_{50}	Lethal dose of a substance in which it can be expected death of 50% of the population
log Kow	Octanol-water partition coefficient
Muta.	Germ cell mutagenicity
OEL	Occupational Exposure Limits
PBT	Persistent, bioaccumulative and toxic
ppm	Parts per million
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals
RID	Agreement on the transport of dangerous goods by rail
Skin Irrit.	Skin irritation
Skin Sens.	Skin sensitization
STOT SE	Specific target organ toxicity - single exposure
UN	Four-figure identification number of the substance or article taken from the UN Model Regulations
UVCB	Substances of unknown or variable composition, complex reaction products or biological materials
VOC	Volatile organic compounds
vPvB	Very persistent and very bioaccumulative

Training guidelines

Inform the personnel about the recommended ways of use, mandatory protective equipment, first aid and prohibited ways of handling the product.

Recommended restrictions of use

not available

Information about data sources used to compile the Safety Data Sheet

REGULATION (EC) No. 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL (REACH) as amended. REGULATION (EC) No. 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL as amended. Data from the manufacturer of the substance / mixture, if available - information from registration dossiers.

The changes (which information has been added, deleted or modified)

The version 2.1 replaces the SDS version from Thursday, 20 October 2022. Changes were made in sections 1, 2, 8, 11, 12, 13, 15 and 16.

Statement

The safety data sheet provides information aimed at ensuring safety and health protection at work and environmental protection. The provided information corresponds to the current status of knowledge and experience and complies with valid legal regulations. The information should not be understood as guaranteeing the suitability and usability of the product for a particular application.