QUALITY FOR PROFESSIONALS

Safety Data Sheet

According to Regulation (EC) No 1907/2006 of the European Parliament and of the Council

1. Section 1. Identification of the substance/mixture and of the company/undertaking:

1.1. Product identifier:

Trade name: **POLYFIX R**

Product code: **1 03.0008**

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

Uses of the mixture: Adhesive
For professional and industrial use only.

Uses advised against: Not known.

1.3. Details of the supplier of the safety data sheet:

Identification of manufacturer/Supplier:

RETECH, s.r.o.
Vackova 1541/4
150 00 Praha 5 - Stodůlky

Telephone number/Fax: +420 327 596 128, +420 327 596 428

E-mail: info@retech.cz

1.4. Emergency telephone number: RETECH, Suchdol 212, 285 02 Suchdol u Kutné Hory, Czech Republic
Telephone number: +420 327 596 128 (7.30-16.00 hour)
Toxikologické informační středisko (Toxicology information centre),
Na bojišti 1, 128 08 PRAHA 2, Czech Republic
Telephone number: +420 224 919 293, +420 224 915 402 (24 hours a day)

2. Section 2. Hazard identification:

2.1. Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008 [CLP]:

Eye Irrit. 2	H319 Causes serious eye irritation.
STOT SE 3	H335 May cause respiratory irritation.
Skin Irrit. 2	H315 Causes skin irritation.

2.2. Label elements:

Labelling according to Regulation (EC) No 1272/2008 [CLP]:

Signal Word: Warning

Hazard Statements:
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H315 Causes skin 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.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P403+P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/container in accordance with national regulation.

Supplemental Hazard information (EU):
EUH202 Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children.

Contained dangerous substances:
7085-85-0 ethyl Ethyl 2-cyanoacrylate

Labelling of packages where the contents do not exceed 125 ml (section 1.5 of Annex I to CLP):

7085-85-0 ethyl Ethyl 2-cyanoacrylate

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

2.3. Other hazards:
Results of PBT and vPvB assessment:
This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

3. Section 3. Composition/information on ingredients:

3.2. Mixtures:

Description of the mixture: Mixture of active ingredients

Hazardous ingredients:

CAS: 7085-85-0 EINECS: 230-391-5 Reg.č.: 01-2119527766-29-0001	Ethyl Ethyl 2-cyanoacrylate Eye Irrit. 2, H319; STOT SE 3, H335; Skin Irrit. 2, H315	80 - 99 %

For full text of H-statements: see SECTION 16.

4. Section 4. First aid measures:

4.1. Description of first aid measures:

General notes: When in doubt or if symptoms are observed, get medical advice.

After inhalation: Remove affected person to fresh air, and if still feeling unwell seek medical attention.

After skin contact: 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. Peel or roll lips apart. Do not try to pull the lips apart with direct opposing action.

After eye contact: 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.

After swallowing: 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:
Contamination of adhesive can generate enough heat to cause a burn. The main effects of acute inhalation exposure to Ethyl 2-cyanoacrylate in humans and animals is irritating to eyes, mucous membranes and upper and lower respiratory tract.
The irritant effect in humans has been found in concentrations of 1.6 mg / m^3 or 4.6 mg / m^3, while Ethyl 2-cyanoacrylate at a concentration of 0.2 mg / m^3 did not cause adverse health effects.

In people who come into contact with the compound induced allergic contact dermatitis on her hands, arms and back.
Cases of asthma using a compound in the form of glue. However, the effect of the compound asthma is not completely understood.

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

For mixtures not specified.
The Ethyl 2-cyanoacrylate:
Inhalation: Continue administering oxygen. In case of shortness of breath with symptoms of spastic bronchial inhaler should be given ipratropium bromide (Atrovent) - 1-2 spraying.
Skin contact: In case of skin lesions Dermatological consultation indicated.
Eye contact: ophthalmologist advice. Further proceedings in accordance with the recommendations of an ophthalmologist.
Ingestion: Proceedings symptomatic. If ingested large amounts indicated surgical consultation. (The substance does not cause general symptoms of poisoning). Further proceedings in accordance with prescribed surgeon.

5. Section 5. Fire fighting measures:

5.1. Extinguishing media:

Suitable extinguishing agents: Carbon dioxide (CO_2), dry chemical, foam or water spray.
Fight larger fires with water spray or alcohol resistant foam.

Unsuitable extinguishing agents: Water jet.

5.2. Special hazards arising from the substance or mixture:

In case of fire it may generate toxic fumes such as carbon monoxide, oxides of nitrogen and irritating vapors of organic compounds.

5.3. Advice for firefighters: Wear protective clothing and self-contained breathing apparatus.

6. Section 6. Accidental release measures:

6.1. Personal precautions, protective equipment and emergency procedures:

Wear protective equipment, see Section 8.
Keep unprotected persons away.
Ensure adequate ventilation.
Do not get in eyes, on skin, or on clothing.
Do not breathe vapours and spray.

6.2. Environmental precautions: Do not allow to enter sewage system, surface or ground water.
Inform respective authorities in case product reaches water course or sewage system.

6.3. Methods and material for containment and cleaning up:

Ensure adequate ventilation.
Do not use cloths to remove spilled product.
Polymerize with water and then scrape off the floor. Cured material can be disposed of as non-hazardous waste.
Dispose contaminated material as waste according to Section 13.

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.

7. Section 7. Handling and storage:

7.1. Precautions for safe handling:

Protective measures: Wear protective equipment, see Section 8.
Ensure good ventilation/exhaustion at the workplace.
Do not breathe vapours and spray.
Wash hands before breaks and at the end of work.

Measures to prevent fire: No further relevant information available.

7.2. Conditions for safe storage, including any incompatibilities:

Requirements for storage rooms and vessels:

In order to maintain optimal shelf life for use in their original containers chilled to a temperature of 2 to 8 ° C.

Technical measures and storage conditions:

Store in a cool place.

Further information on storage conditions:

Keep container closed.

7.3. Specific end use(s): No further relevant information available.

8. Section 8. Exposure controls/personal protection:

8.1. Control parameters:

Components with limit values that require monitoring at the workplace:

WEL (United Kingdom): EH40/2005

CAS	Substance	Long-term (8-hr TWA ref. period)		Short-term (15 minute ref. period)		Comments
		ppm	mg/m^3	ppm	mg/m^3	
7085-85-0	Ethyl 2-cyanoacrylate	-	-	0.3	1.5	-

DNEL

7085-85-0 Ethyl 2-cyanoacrylate

Inhalation	Chronic effects systemic	9.25	mg/m^3	Workers
	Chronic effects systemic	9.25	mg/m^3	Consumers
	Chronic effects local	9.25	mg/m^3	Workers
	Chronic effects local	9.25	mg/m^3	Consumers

LOAEL

4.6 mg / m3; in employees observed irritation of eyes, mucous membrane of the nose and throat and lower respiratory tract that led to shortness of breath.

Additional information: The lists that were valid during the compilation were as basis.

8.2. Exposure controls:

Technical measures to prevent exposure:

Ensure good ventilation/exhaustion at the workplace.
Do not use this product in an enclosed or poorly ventilated area.

General protective measures:

When using the mixture, do not eat, drink or smoke.
Immediately remove contaminated clothing and clean before reuse.
Always wash your hands after contact with the mixture and before eating.
Contaminated surfaces clean with soapy water.
Observe basic hygienic rules.
Work in well-ventilated areas.
Keep away from children.

Personal protection equipment:

Respiratory protection:

Provide adequate ventilation in the area of use.
If ventilation alone is not sufficient to control exposure, wear a mask completed with the filter.
Class B - selection depends on the volume concentration:
To 0.1% by volume. - B1; 0.1 ÷ 0.5% vol. - B2; 0.5 ÷ 1% vol. - B3.
In the event of oxygen deficiency (concentration below 17% vol.) or when the concentration of the compound is higher than 1% vol., use stand-alone or PC-respirator.

Eye protection: Safety goggles.

Hand protection:

Protective gloves
Solvent resistant gloves.
Recommenden material of gloves:
In the case of prolonged, repeated contact with the skin, use gloves made of polyvinyl chloride or nitrile rubber gloves or other solvent-resistant. It is

recommended to use protective gloves with nitrile rubber. Gloves made of polyethylene or polypropylene are preferred when using large quantities. Do not use PVC, rubber, nylon or cotton gloves.

Skin protection: Protective clothing.

9. Section 9. Physical and chemical properties:

9.1. Information on basic physical and chemical properties:

Form:	Fluid
Colour:	Colourless
Odour:	Sharp, distinctive
Odour threshold:	Not determined
Value pH at 20 °C:	Not determined
Melting point/freezing point:	The crystallization temperature of Ethyl 2-cyanoacrylate is -71 °C, the melting temperature is -31 °C.
Initial boiling point/boiling range:	214 °C (100.3 kPa)
Flash point:	82.5 °C (100.3 kPa)
Evaporation rate:	Not determined
Flammability (solid, gas):	Not flammable
Explosive limits:	
– lower:	Ethyl 2-cyanoacrylate is not explosive.
– upper:	Ethyl 2-cyanoacrylate is not explosive.
Vapour pressure at 20°C:	> 0,065
Vapour density at 20 °C:	Ethyl 2-cyanoacrylate: ≤ 21 Pa
Density at 20°C:	1.043 g/cm^3
Relative density:	Not determined
Solubility in/miscibility:	Water: < 0,024 mg/l (insoluble) Acetone: 91.8 % Acetonitrile: 96.5 %
Partition coefficient (n-octanol/water):	Log P_{ow} 0,776 (calculated)
Ignition temperature:	480 °C
Decomposition temperature:	Not determined
Self-ignition temperature:	Not determined
Viscosity:	2.6 mPa s
Oxidising properties:	Not determined

9.2. Other information: No further relevant information available.

10. Section 10. Stability and reactivity:

10.1. Reactivity: Not specified.

10.2. Chemical stability: Stable at normal ambient temperatures and when used as recommended.

10.3. Possibility of hazardous reactions:
The polymerization is performed in the presence of moisture and other materials used.

10.4. Conditions to avoid: Moisture, contact with water and the basic raw material.

10.5. Incompatible materials: Avoid contact with water, moisture, soil, amines, alkalis and alcohols.

10.6. Hazardous decomposition products:
In case of fire the following can develop: Oxides of carbon; Oxides of nitrogen.

11. Section 11. Toxicological information:

11.1. Information on toxicological effects:

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

Relevant hazards for substance:

Oral	LD50	rat	> 5000	mg/kg (OECD 401)
Dermal	LD50	rabbit	> 2000	mg/kg (OECD 402)
Inhalative	LC50 / 4 h	rat	<21.11	mg/l

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.

Skin corrosion/irritation:	Causes skin irritation.
Serious eye damage/irritation:	Causes serious eye irritation.
Respiratory or skin sensitization:	Based on available data, the classification criteria are not met.
Germ cell mutagenicity:	Based on available data, the classification criteria are not met.
Carcinogenicity:	Based on available data, the classification criteria are not met.
Reproductive toxicity:	Based on available data, the classification criteria are not met.
STOT-single exposure:	May cause respiratory irritation.
STOT-repeated exposure:	Based on available data, the classification criteria are not met.
Aspiration hazard:	Based on available data, the classification criteria are not met.
Other information:	Irritating to eyes. In dry air (humidity <50%) vapors may cause irritation and watery eyes. Because of the rapid polymerization of an allergic reaction on the skin surface is not possible. The polymerized material is not able to penetrate the epidermis. In women applying an adhesive comprising cyanoacrylate tips for sticking observed chronic inflammation of the skin (concentrations and exposure time not specified) (NTP). It may be irritating to skin, eyes and respiratory system. The mixture contains no ingredients classified as carcinogenic (Cat. 1A or 1B), mutagenic (Cat. 1A or 1B), or toxic to reproduction in accordance with the provisions of Regulation 1272/2008/EC. 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).

12. Section 12. Ecological information:

12.1.	Toxicity:	Negligible ecotoxicity.
12.2.	Persistence and degradability:	Not applicable (impossible to assess due to the rapid polymerization of 2-cyanoacrylate).
12.3.	Bioaccumulative potential:	Not applicable (impossible to assess due to the rapid polymerization of 2-cyanoacrylate).
12.4.	Mobility in soil:	Not applicable (impossible to assess due to the rapid polymerization of 2-cyanoacrylate).
12.5.	Results of PBT and vPvB assessment:	This mixture does not contain any substances that are assessed to be a PBT or a vPvB.
12.6.	Other adverse effects:	No further relevant information available.

13. Section 13. Disposal considerations:

13.1. Waste treatment methods:

Product disposal: Incineration is the recommended method of disposal.
Must not be disposed together with household garbage.
Do not allow product to reach sewage system.
Uncured adhesive polymerize by the slow addition of water (10: 1).
European Waste Catalogue:
08 04 09* waste adhesives and sealants containing organic solvents or other hazardous substances

		(*hazardous waste)
	Packagings disposal:	Disposal must be made according to official regulations. Incineration is the recommended method of disposal. European Waste Catalogue: 15 01 10* packaging containing residues of or contaminated by hazardous substances (*hazardous waste)
	Other disposal recommen-dations:	Disposal must be made according to official regulations. The final decisions on the appropriate waste management method, in line with regional, national and European legislation, and possible adaptation to local conditions, remains the responsibility of the waste treatment operator.

14. Section 14. Transport information:

14.1.	UN number:	
	ADR/RID/ADN	This product does not require a classification for transport.
	IMDG	This product does not require a classification for transport.
	ICAO/IATA	UN 3334
14.2.	UN proper shipping name:	
	ADR/RID/ADN	Not applicable.
	IMDG	Not applicable.
	ICAO/IATA	AVIATION REGULATED LIQUID, N.O.S., CYANOACRYLATE ESTER
14.3.	Transport hazard class(es):	
	ADR/RID/ADN	
	Class	Not applicable.
	Hazard label	Not applicable.
	IMDG	
	Class	Not applicable.
	Hazard label	Not applicable.
	ICAO/IATA	
	Class	9
	Hazard label	9
14.4.	Packing group:	
	ADR/RID/ADN	Not applicable.
	IMDG	Not applicable.
	ICAO/IATA	Passenger transportation: Packing instruction: 906 Cargo: Packaging instructions: 906
14.5.	Environmental hazards:	
	Marine pollutant:	Nein
14.6.	Special precautions for user:	Not applicable.
14.7.	Transport in bulk according to Annex II of MARPOL and the IBC Code:	
		Not applicable
	IATA	3334: Aviation regulated liquid, n.o.s., cyanoacrylate ester, 9 Primary packs containing less than 500 ml are not regulated by this mode of transport and can be delivered without restrictions.

15. Section 15. Regulatory information:

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

Used legislation:
Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals, as amended (REACH)
Regulation (EC) No 1272/2008 of the European Parliament and of the Council on classification, labelling and packaging of substances and mixtures, as amended (CLP)
Regulation (EC) No 648/2004 of the European Parliament and of the Council on detergents, as amended
Commission Decision 2000/532/EC establishing a list of wastes, as amended

Council Directive 89/686/EEC on the approximation of the laws of the Member States relating to personal protective equipment, as amended
Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended
Commission Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values
Commission Directive 2006/15/EC establishing a second list of indicative occupational exposure limit values
Commission Directive 2009/161/EU establishing a third list of indicative occupational exposure limit values
Directive 2004/42/CE of the European Parliament and of the Council on the limitation of emissions of volatile organic compounds due to the use of organic solvents in certain paints and varnishes and vehicle refinishing products and amending Directive 1999/13/EC, as amended

15.2. Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16. Section 16. Other information:

Relevant H-statements (Section 3):
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H315 Causes skin irritation.

Abbreviations and acronyms:
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level
EINECS: European Inventory of Existing Commercial Chemical Substances
IATA: International Air Transport Association
IMDG: International Maritime Code for Dangerous Goods
LC50: Median concentration lethal to 50 % of a test population
LD50: Median dose lethal to 50 % of a test population
LOAEL: Lowest-observed-adverse-effect level
N.O.S.: Not Otherwise Specified entry
WEL: Workplace exposure limits
NTP: National Toxicology Program
PBT: Persistent, Bioaccumulative, Toxic
Reg.nr.: Registration number
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
vPvB: Very Persistent, Very Bioaccumulative
Eye Irrit. 2: Serious eye irritation, category 2
Skin Irrit. 2: Skin irritation, category 2
STOT SE 3: Specific target organ toxicity — single exposure, category 3

The information contained herein is based on our best knowledge and the present legislation. Further, the Safety Data Sheet has been elaborated on the basis of the original Safety Data Sheet provided by the manufacturer. These data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.
***Compared to the last version the data has been changed.**