

MATERIAL SAFETY DATA SHEET

P262 Do not get in eyes, on skin, or on clothing.
P305+351+313 IF IN EYES: Rinse cautiously with water for several minutes. Get medical advice/attention.

2.3. Other hazardous

May cause sensitization by skin and respiratory system.
Cyanoacrylate. Danger. Bonds skin and eyes in seconds. Keep out of the reach of children. In case of contact, body parts (eg, fingers, eyelids) contaminated material followed by their rapid and strong adhesion.

Section 3: Composition/ Information of ingredients

3.2. Composition

Chemical Identity and concentration range [%]	CAS No	EINECS No	GHS/CLP Classification
Ethyl Cyanoacrylate 96 – 100	7085-85-0	230-391-5	Skin Irrit. 2 H315 Eye Irrit. 2 H319 STOT SE 3 H335

Full text of H-phrases is provided in section 16.

Section 4: First aid measures

4.1. Description of first aid measures

First aid for skin:

Do not distract glued surface of the skin. If possible, gently pry the glued surfaces of the skin with a blunt object (eg bucket) after wetting with warm soapy water. During curing cyanoacrylates, heat is produced. It may sometimes happen that the amount of heat released from one bead of adhesive will, cause thermal burns. Such burns should be treated in the usual way after removal of the adhesive from the skin. Paragraph is bonded from the outside should be moistened with warm water and saliva and from the inside lips separated gentle movements glued surfaces. Do not come off paragraph with force.

First aid for eye:

If the eyes are closed glued be applied to the eyelid tampon moistened with warm water. Cyanoacrylate contact with the eye causes tearing, which facilitates putting up. The wet dressing should be maintained until all of the eyelids unglued (typically 1 to 3 days). Do not separate the eyelids glued together by force. Seek medical attention if the constant rough particles of cured adhesive can be reached under the eyes and cause damage (abrasions) eyes.

Note: Persons exposed to contamination eyes should be instructed on the necessity and method of immediate washing.

First aid in case of ingestion:

Immediately after swallowing the victim itself should induce vomiting at home. Establish a permanent intravenous route (nurse). Call a doctor. Restore patency of airway. The product is polymerized in the mouth immediately and cannot be swallowed. Solidified particles off the adhesive under the influence of saliva will be slowly peel from the surface of the oral mucosa (several hours).

First aid in case of inhalation:

Move the victim to fresh air. In case of persistent symptoms seek medical attention.

4.2. Most important symptoms and effects, both acute and delayed***Skin contact:***

Irritation, redness.

Eye contact:

Tearing, redness of the conjunctiva, irritation.

Ingestion:

Nausea, vomiting, abdominal pain.

Inhalation:

Irritation, in case of prolonged contact: effects of chronic or occupational asthma.

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

After a thorough examination of the casualty the doctor decides what rescue proceedings should be taken.

Section 5: Fire-fighting Measures**5.1. Extinguishing media**

Carbon dioxide, dry chemical, foam.

5.2. Special hazards arising from the substance or mixture

The product is not flammable (flash point higher than 80 °C). The high temperature steam and air form a mixture igniting in contact with the flame. Vapours are heavier than air and accumulate at the surface of the earth and the lower parts of the premises. Readily undergoes polymerization. Contact with cotton or wool may result in a highly exothermic reaction. In the environment, fire, toxic fumes containing carbon monoxide and nitrogen oxides

5.3. Advice for fire-fighters

Put on protective clothing and coated materials contained breathing apparatus. Containers exposed to fire or high temperature with water. Do not allow to enter waste water fire-fighting into drains and waterways.

Section 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Wear suitable protective clothing. Keep away from bystanders. Keep away from sources of ignition. Provide adequate ventilation. Avoid contact with skin and eyes. Do not breathe vapors. See also Section 8.

6.2. Environmental precautions

In the event of failure do not allow release to the environment. Prevent product from entering sewers, groundwater, soil. Try to collect as much as possible into suitable containers for later disposal.

6.3. Methods and material for containment and cleaning up

Remove sources of ignition (extinguish flames announce non-smoking). Avoid direct contact with the released substance. Avoid inhalation of vapors. Use personal protective equipment (as specified in Section 8).

Note: join contaminated body parts (eyes, fingers , etc.) causes the immediate bonding.

In the case of release of small quantities of spilled liquid to add a small amount of water to cure, the solidified product is collected into a waste container. Do not use rags to wipe the spilled product. Polymerize with water and then scrape off the floor surface. Dispose of in accordance with the recommendations set out in section 13. Prevent product from entering sewers and water, protect the grille and manholes. If possible, eliminate leakage (damaged container placed in emergency containers), if large spill site where the liquid accumulates; released liquid cover with non-absorbent material (sand soil), collect into closable container for disposal; disposed of in accordance with regulations.

6.4. Reference to other sections

Disposal of the product - Section 13

Personal protection – Section 8

Section 7: Handling and storage

7.1. Precautions for safe handling

When using do not eat, drink, avoid contamination of the skin and eyes. In order to reduce the risk of eye and skin contact use dosing devices. Avoid inhalation of vapors. Observe good personal hygiene, use personal protective equipment (as specified in Section 8). Work in well ventilated areas. Do not use an open flame, no smoke, protect containers from heat. Note: When using is not recommended to wear clothing made of cotton or wool. Keep away from sources of heat and ignition. Do not smoke while handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Store in the original, properly labeled, tightly sealed containers in a dry, well-ventilated storage. Keep away from oxidizing agents. In order to maintain optimum shelf life for use in their original containers chilled to a temperature of 2 to 8 °C. Containers to protect against heat and sunlight. Keep product away from water and moisture. In place of storage do not smoke, use open fire.

7.3. Specific end use(s)

Tips Glue, cyanoacrylate adhesive for bonding plastics.

Section 8: Exposure controls/ personal protection

8.1. Control parameters

For a substance in the preparation has not been established occupational exposure limit values (MLSP Regulation (Journal of Laws No. 217 of 2002, item 1833, as amended. Coll. Laws No. 212 of 2005, item. 1769, d. Acts . Laws No. 161 of 2007, item. 1142).

The EU does not set the value of IOELV for this compound (Directive 91/322/EEC, 2000/39/EC, 2006/15/EC).

Germany: MAK - not determined; (List of MAK and BAT Values, 2007)

Austria: OEL - 9 mg/m³ (list 2006)

Denmark OEL - 10 mg/m³ (2 ppm) (list 2002)

Finland: OEL - 1 mg/m³ (0.2 ppm) (list 2005)

Ireland: OEL - 1 mg/m³ (0.2 ppm) (list 2005)

Sweden OEL - 10 mg/m³ (2 ppm) TWA - 20 mg/m³ (4 ppm) (list 2005)

United Kingdom: OEL - not determined; STEL (15 minutes) - 1.5 mg/m³ (0.3 ppm) (list 2005)

USA-ACGIH: TWA - 1 mg/m³ (0.2 ppm) STEL - not determined (list 2007).

Additional information concerning requirements of technical devices. Local exhaust ventilation necessary, remove vapors from the places of their emissions, and general ventilation. Vents local ventilation at the working level or below. General ventilation with ventilation at the top of the room and the floor. Ventilation systems must comply with the conditions determined due to the danger of fire or explosion.

8.2. Exposure controls

Regulation of the Minister (Journal of Laws No. 73/2005, pos. 645 d. Laws No. 241/2007, pos. 1772) BS EN 1540:2004 Workplace atmospheres - Terminology; PN-Z-04008-7: 2002 Air purity protection.

Measurement of concentrations of chemicals and industrial dusts in the work environment. Principles of air sampling in the workplace and interpretation of results; PN-Z-04008-7: 2002/Az1: 2004 Amendment to the standard of air purity protection. Measurement of concentrations of chemicals and industrial dusts in the work environment. Principles of air sampling in the work environment and the interpretation of results.

Organic Methods Evaluation Branch OSHA Method No. 55 Methyl 2-Cyanoacrylate (MCA), Ethyl 2-Cyanoacrylate (ECA). OSHA Analytical Laboratory. Salt Lake City, Utah, 1985.

Maximum concentrations in biological material: Not been established.

8.2.1. Occupational exposure controls

Respiratory protection

Wear a mask complete with the filter canister Class B should be selected depending on the volume concentration of the compound: 0,1% vol. - B1, 0,1 to 0,5%. - B2, 0,5 ÷ 1% vol. - B3. In the event of oxygen deficiency (concentration less than 17% vol.) Or the compound concentration exceeds 1% by volume. Used standalone or desktop equipment isolating. In an emergency or when the concentration of substances in the workplace is not known, use personal protection measures insulating body (gas-tight suit complete with insulating protective equipment, respiratory system).

Hand protection

Avoid contact with skin. Wear protective clothing made from viton coated materials, protective gloves such as Viton, footwear complete from material. In the zone of explosive used clothing, gloves and shoes, antistatic.

Do not use gloves made of PVC, rubber, nylon or cotton.

Eye protection

Avoid contact with eyes. In conditions where there is any possibility of splashing liquid product wear eye / face protection.

8.2.2. Environmental exposure controls

Maximum values of pollutants in treated industrial wastewater - World Cup Regulation (Journal of Laws No. 137 of 2006, item. 984):

Cyanides related: 5 mg CN/l

Acceptable values of pollutants in industrial waste water entering the sewage system - Regulation MB (Journal of Laws No. 136 of 2006, item. 964):

Cyanides related: 5 mg CN / l

Acceptable levels of substances in the air - Regulation Championship (Journal of Laws No. 87 of 2002, poz.796):

Not been established.

The reference values for certain pollutants in the air - Regulation Championship (Journal of Laws No. 1 of 2003, pos. 12):

Not been established.

8.2.3. Other Information:

When you use the product, do not eat or drink, do not smoke. Immediately remove contaminated clothing and clean before reuse. Always wash your hands after handling and before eating. Contaminated surfaces cleaned with soapy water. Follow the basic rules of hygiene. Work in well ventilated areas. Keep out of the reach of children.

Used personal protection must comply with the Regulation of the Minister of Economy of 21 December 2005 on essential requirements for personal protective equipment (Journal of Laws No. 259 of 2005, item. 2173).

The employer shall ensure that the applicable personal protective equipment, clothing and shoes have protective properties and shall assure their proper cleaning, maintenance, repair and decontamination.

Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	colourless, transparent liquid
Odor & Odor Threshold	crisp, distinctive
pH	not applicable
Density g / ml (at 20 °C)	1.05 ÷ 1.1
Viscosity	no data
Decomposition/Temperature	no data
Octanol/Water Partitioning Coefficient Log Po/w	no data
Vapor Pressure (kPa):	> 0.065 at 25°C
Solubility In Water (20°C)	insoluble
Solubility In Acetone	not applicable
Boiling point (°C)	> 100
Flash Point (°F/°C)	> 80 (closed cup)
Flammable Limit (vol%)	no data
Auto-ignition Temperature	no data
The limits of concentration of explosive in the air (%)	not determined

9.2. Other information

No data.

Section 10: Stability and reactivity

10.1. Reactivity

The product reacts with water.

10.2. Chemical stability

Polymerizes in contact with water or moisture.

10.3. Possibility of hazardous reactions

Uncontrolled polymerization

10.4. Conditions to avoid

Heat, ignition sources and sunlight.

10.5. Incompatible materials

Oxidizing agents, alkalis, water, moisture, cotton, wool.

10.6. Hazardous decomposition products

The fire environment emit oxides of carbon and nitrogen oxides.

Section 11: Toxicological information**11.1. Information on toxicological effects:****Acute**

LC50 (rat, inhalation) < 21.11 mg / l / h - group, 5 female and 5 male rats were exposed to the cyanoacrylate at a concentration of 21.11 mg / l for 1 h were observed in animals respiratory tract, eyes and skin during the experiment. Mortality was 70% within 4 days after the end of exposure (NTP).

LD50 (rabbit, skin) > 2000 mg / kg

LD50 (rats - oral) > 5000 mg / kg bw

Toxicokinetics, metabolism and distribution

No data available. Probably cyanoacrylate can be absorbed in the digestive tract. 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 polymerization was performed there) through the mucosa. Cyanoacrylates are metabolized in vivo to formaldehyde, thiocyanates, carbon dioxide and water (NTP).

Irritation / corrosion

In humans, using glues containing cyanoacrylate skin inflammation was observed. In workers using glues containing cyanoacrylate for automotive products, acute irritant effect on the mucous membranes of the respiratory tract and respiratory sensitization. The concentration of compound at workplaces was 4.6 mg/m³ (NIOSH, NTP quoted). Cyanoacrylate adhesive as applied to the optic nerve and frontal lobe cortex base cats and rabbits. Histopathological examination was performed at 3, 6 and 12 months of the experiment. Found fibrosis hard and soft tires with little inflammation and damage to blood vessels (NTP). The compound can be a cause mechanical damage to the cornea.

Sensitisation

In humans, using glues containing cyanoacrylate contact dermatitis and was found positive results in tests occlusion. Also described a case of asthma 32 year old man applying for 1 year cyanoacrylate adhesive comprising scale aircraft models. Also describes cases of occupational asthma in workers producing different products for household appliances, automobiles and industry. The concentration of cyanoacrylate in the workplace air reached levels of up to 1.6 mg/m³ (NTP).

Repeated dose toxicity

In women applying glue containing cyanoacrylate to glue the tips observed in chronic inflammation of the skin (the concentration and duration of exposure not specified) (NTP).

Mutagenicity

No mutagenic compound in Salmonella typhimurium TA 100, TA 1535, TA 1538 in terms of metabolic activation. Cyanoacrylate 98% did not cause increase in the number of revertant colonies in a standard platelet assay of Salmonella typhimurium strains TA 1535, TA 1537, TA 1538, TA 98 and TA 1000 at a dose of 4000 ug / plate with or without metabolic activation.

Carcinogenic

No studies carcinogenic compound on animals (NTP).

Effects on reproduction

Exposure three pregnant women cyanoacrylate vapour escaping in the bonding of automotive parts and packaging for six weeks earlier deliveries was the cause, the two premature babies who died (not specified concentrations of the compound, in positions exposure occurred well as other chemical substance) (EPA, 1989 quoted NTP).

Air passages

Irritating to respiratory system. In dry air with humidity below 50% vapour can irritate the eyes and respiratory system. Long-term exposure to high concentrations of vapours may result in individuals susceptible to the effects of chronic or occupational asthma.

Skin

Irritating to the skin. Contamination can cause local skin irritation - redness. Bonds skin in seconds. He is considered to have low toxicity. In view of the polymerization product at the surface of the skin sensitizing effect is unlikely.

Eyes

Irritating to eyes. In dry air with humidity below 50% vapour can irritate the eyes and cause tearing, redness of the conjunctiva.

Ingestion

Considered to be of low toxicity. Due to the immediate polymerization of the oral ingestion of the product is unlikely. Ingestion causes nausea, vomiting, abdominal pain.

Other information:

The product does not contain ingredients classified as carcinogenic (category 1 or 2), mutagenic (category 1 or 2), or toxic for reproduction in accordance with the provisions of the Act of 11 January 2001 on chemical substances and preparations (Journal of Laws No. 11 of 2001, pos. 84, as amended.) and included in the list of carcinogens or mutagens annexed to the Regulation of the Minister of Health of 1 December 2004 on substances, preparations, factors or technological processes with carcinogenic or mutagenic in the work environment (Journal of Laws No. 280 of 2004, item. 2771). Symptoms of chronic poisoning: contact dermatitis, allergic rhinitis and bronchial asthma.

Section 12: Ecological Information**12.1. Toxicity**

No data available.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT assessment

Not include.

12.6. Other adverse effects

Not studied.

The product does not contain substances listed in the Montreal Protocol.

Section 13: Disposal considerations

13.1. Waste treatment methods

- Do not empty into drains. Do not allow contamination of surface water and groundwater. Do not dispose of as household waste. Eliminate the gathered waste materials according to the Department of Environmental Protection Regional Office or the district office.
- Comply with the provisions of the Act of 27 April 2001 on waste (Journal of Laws of 2001 No. 62, item. 628, as amended)
- Comply with the provisions of the Act of 27 May 2001 on packaging and packaging waste (Journal of Laws of 2001 No. 63, item. 638, as amended): waste code 15 01 02 (plastic packaging) 15 01 04 (metal packaging)
- In accordance with the manufacturer's recommendations prior to removal of the product to be polymerized by the slow addition of water (10:1)

Classification of waste in accordance with the Regulation of the Minister of Environment of 27 September 2001 on waste (Journal of Laws of 2001 No. 112, item 1206):

For polymerized adhesive: 08 04 10 - waste adhesives and sealants other than those mentioned in 08 04 09

Manufacturer's suggested method of disposal : by incineration - burning in the respective systems

Section 14: Transport information

14.1. UN number

UN 3334 (IATA)

14.2. UN proper shipping name

Liquid material, subject to the provisions of the air (IATA)

14.3. Transport hazard class(es)

9 (IATA)

14.4. Packing group

The product is not classified as dangerous during transport.

14.5. Environmental hazards

The product is not classified as dangerous during transport.

14.6. Special precautions for user

IATA Class	9
Classification code:	M11
Passenger:	100 L, manual Packing: 906
Cargo:	220 L, manual Packing: 906

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Section 15: Regulatory information

Clean Air Act: HAP/ODS	This product contains no hazardous air pollutants (HAP and ODS's), as defined by the U.S. Clean Air Act.
Clean Water Act: Priority Pollutant	This product contains no chemicals listed under the U. S. Clean Water Act Priority Pollutant List.
FDA: Food Packaging Status	This product has not been cleared by the FDA for use in food packaging and / or other applications as an indirect food additive.
Occupational Safety and Health Act	This product is considered to be a hazardous chemical under the OSHA Hazard Communication Standard. Its hazards are: <ul style="list-style-type: none"> • Immediate (acute) health hazard • Delayed (chronic) health hazard • Reactive hazard
RCRA	This product is not considered to be a hazardous waste under RCRA (40 CFR 261).
SARA Title III: Section 302 (TPQ)	This product contains no chemicals regulated under Sec. 302 as extremely hazardous substances.
SARA Title III: Section 302 (RQ)	This product contains no chemicals regulated under Section 304 as extremely hazardous chemical for emergency release notification (" CERCLA" List)
SARA Title III: Section 311-312:	This product is considered hazardous under the OSHA Hazard Communication Standard and is regulated under Section 311-312 (40 CFR 370). Its hazards are: <ul style="list-style-type: none"> • Immediate (acute) health hazard • Delayed (chronic) health hazard • Reactive hazard
SARA Title III: Section 313:	This product contains no chemicals subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.
TSCA Section 8(b): Inventory: TSCA Significant New Use Rule:	This product contains chemicals listed on the TSCA inventory or otherwise complies with TSCA premanufacture notification requirements. None of the chemicals listed have a SNUR under TSCA.

International Regulations:

EINECS: European Inventory:	<p><u>Hazard statements:</u> H315 Causes skin irritation; H319 Causes serious eye irritation; H335 May cause respiratory irritation.</p> <p><u>Precautionary statements:</u> P102 Keep out of reach of children; P260 Do not breathe dust/fume/gas/mist/vapours/spray; P262 Do not get in eyes, on skin, or on clothing; P305+351+313 IF IN EYES:Rinse cautiously with water for several minutes. Get medical advice/attention.</p>
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Section 16: Other information

Full range of H-Phrases from Section 2 and 3.

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

P-Phrases

P102	Keep out of reach of children
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P305+351+313	IF IN EYES:Rinse cautiously with water for several minutes. Get medical advice/attention.

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