

Material Safety Data Sheet (MSDS)

2. Hazard Identification

GHS Classification (Based on NITE)

Physical Hazards

Explosives	Classification not possible
Flammable gases	Not applicable
Flammable aerosols	Not applicable
Oxidizing gases	Not applicable
Gases under pressure	Not applicable
Flammable liquids	Category 4
Flammable solids	Not applicable
Self-reactive substances and mixtures	Classification not possible
Pyrophoric liquids	Not classified
Pyrophoric solids	Not applicable
Self-heating substances and mixtures	Classification not possible
Substances and mixtures which, in contact with water, emit flammable gases	Not applicable
Oxidizing liquids	Not applicable
Oxidizing solids	Not applicable
Organic peroxides	Not applicable
Corrosive to metals	Not classified

Human Health Hazards

Acute toxicity (Oral)	Not classified
Acute toxicity (Dermal)	Not classified
Acute toxicity (Inhalation: Gases)	Not applicable
Acute toxicity (Inhalation: Vapours)	Classification not possible
Acute toxicity (Inhalation: Dusts)	Not applicable
Acute toxicity (Inhalation: Mists)	Classification not possible
Skin corrosion/irritation	Classification not possible
Serious eye damage/eye irritation	Classification not possible
Respiratory sensitization	Classification not possible
Skin sensitization	Classification not possible
Germ cell mutagenicity	Classification not possible
Carcinogenicity	Classification not possible
Reproductive toxicity	Classification not possible
031-973-9902	
Specific target organ toxicity - Single exposure	Classification not possible
Specific target organ toxicity – Repeated exposure	Classification not possible
Aspiration hazard	Classification not possible

Environmental Hazards

Acute toxicity to the aquatic environment	Classification not possible
Chronic toxicity to the aquatic environment	Classification not possible

Label Elements

Pictogram and Symbol : Exclamation Mark Signal

word : Warning

Hazard statement : Combustible liquid

Precaution :



[Prevention]

Keep away from heat/sparks/open flames/hot surfaces. No smoking.
Avoid breathing mist/vapours/spray.
Wash hands thoroughly after handling.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.

[Response]

If on skin : Wash with plenty of soap and water.
If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician.
If skin irritation or rash occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash before reuse.
In case of fire: Use appropriate extinction.

[Storage]

Store in a well-ventilated place. Keep container tightly closed.
Store locked up.

[Disposal]

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

3. Composition/information on ingredients

3.1 Substance : Ethoxyethyl 2-cyanoacrylate

3.2 Other name : 2-Cyanoacrylic acid, ethoxyethyl ester, 2-Cyano-2-propenoic acid, ethoxyethyl ester,
ETHOXYETHYL 2-CYANOACRYLATE, Ethoxyethyl alpha-cyanoacrylate

3.3 Ingredients

Ingredients wt% CAS Registry No. Chemical Formula

Ethoxyethyl 2-cyanoacrylate 5 21982-43-4 $\text{CH}_2=\text{C}(\text{CN})-\text{COOCH}_2\text{CH}_2\text{OCH}_2\text{CH}_3$ PMMA 6 secret secret

Carbon black 1 1333-86-4

Trade Secret 3 secret secret

Ethyl cyanoacrylate 85 7085-85-0

3.4 Inventory status: Ethoxyethyl 2-cyanoacrylate

TSCA Listed

EC No. 244-692-4

EC Classification No information

EC Labeling No information

4. First aid measures

4.1 Description of necessary measures, subdivided according to the different routes of exposure, ie, inhalation, skin and eye contact, and ingestion

If on skin: Wash with plenty of soap and water.

If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Immediately call a POISON CENTER or doctor/physician.

If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.

Continue rinsing. Immediately call a POISON CENTER or doctor/physician.

4.2 Most important symptoms/effects, acute and delayed

Please refer to "11 Toxicological information" in detail.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

If skin irritation or rash occurs: Get medical advice/attention

If eye irritation persists: Get medical advice/attention

5. Firefighting measures

5.1 Acute hazards/symptoms in Fire : Combustible.

5.2 Prevention in Fire : No open flames.

5.3 First aid/Fire Fighting in Fire : In case of fire in the surroundings: use appropriate extinguishing media. 5.4 Acute

hazards/symptoms in explosion: Above 95 °C explosive vapour/air mixtures may be formed. 5.5 Prevention in explosion : Above 95

°C use a closed system, ventilation, and explosion-proof electrical equipment. 5.6 First aid/Fire Fighting in Explosion : In case of fire: keep drums, etc., cool by spraying with water.

6. Accidental release measures

6.1 Evacuate nonessential personnel.

6.2 Shut off all sources of ignition ; No fires , smoking or flames in area.

6.3 Ventilate area after material pick up is completed.

6.4 For small spills: Absorb spill with inert material (dry cloth, dry sand), then place in a chemical waste containers using non-sparking tools. Flush residual spill (area) with plenty of water.

6.5 For large spills: Dike for later disposal. Wash with plenty of water.

7. Handling and storage

7.1 Precautions for safe handling.

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Avoid breathing mist/vapours/spray.

Wash hands thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Contaminated work clothing should not be allowed out of the workplace.

Wear protective gloves/protective clothing/eye protection/face protection.

Take off contaminated clothing and wash before reuse.

7.2 Conditions for safe storage, including any incompatibilities.

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

8. Exposure controls/personal protection

8.1 Control parameters, eg, occupational exposure limit values or biological limit values

No data

8.2 Appropriate engineering controls (Please refer to engineering controls described in "7.1 Precautions for safe handling".)

8.3 Individual protection measures, such as personal protective equipment

(Please refer to Individual protection measures described in "7.1 Precautions for safe handling".)

9. Physical and chemical properties

9.1 Appearance (physical state, color, etc) : Black liquid

9.2 Odor : Non smell

9.3 Odor threshold : No data

9.4 pH : 4~6

9.5 Melting point/Freezing point : <-20 °C

9.6 Initial boiling point and boiling range : above 190 °C

9.7 Flash point : 95 °C (open cup)

9.8 Evaporation rate : No data

9.9 Flammability (solid, gas) : liquid

9.10 Upper/lower flammability or explosive limits : No data

- 9.11 Vapor pressure : <1 Pa (25 °C)
9.12 Relative density : 0.9~1.1 (water=1)
9.13 Solubility(ies) : not soluble in water. slightly soluble in alcohol, acetone, MEK, toluene, DMF, nitromethane.
9.14 Partition coefficient: n-octanol/water : No data
9.15 Autoignition temperature : 330 °C
9.16 Decomposition temperature : No data

10. Stability and reactivity

- 10.1 Condition to avoid: High humidity, high temperature or direct sunlight. 10.2 Stability: Stable (cool and dry area.).
10.3 Materials to avoid: Polymerized by contact with water, alcohols, amines, alkalies. 10.4 Hazardous decomposition or by products: CO₂, oxides and nitrogen and unknown hydrocarbons.

11. Toxicological information

11.1 Acute toxicity (Oral)

Ethyl cyanoacrylate: Since the death of one in six rat is reported in oral 5000 mg/kg (CICAD, 2001), LD₅₀> 5000 mg/kg is presumed. Signs of other toxicity are not acknowledged. Therefore, it was set as outside of Category. Upper data is reference value.(a similar material =ethyl cyanoacrylate)

11.2 Acute toxicity (Dermal)

Ethyl cyanoacrylate: Death is not reported at rabbit 2000 mg/kg bw (CICAD, 2001). Therefore, it was considered as the outside of Category. Upper data is reference value(a similar material =ethyl cyanoacrylate)

11.3 Acute toxicity (Inhalation: Gases)

Liquid (GHS definition)

11.4 Acute toxicity (Inhalation: Vapours)

No data available

11.5 Acute toxicity (Inhalation: Dusts / Mist)

No data available

11.6 Skin corrosion / irritation

No data available

11.7 Serious eye damage / eye irritation

Ethoxyethyl 2-cyanoacrylate: No data available

11.8 Respiratory sensitization / Skin sensitization

Ethoxyethyl 2-cyanoacrylate: No data available

11.9 Germ cell mutagenicity Ethoxyethyl 2-cyanoacrylate: No data available

11.10 Carcinogenicity

Ethoxyethyl 2-cyanoacrylate: No data available

11.11 Reproductive toxicity

Ethoxyethyl 2-cyanoacrylate: No data available

11.12 Specific target organ toxicity -Single exposure

Ethoxyethyl 2-cyanoacrylate: No data available

11.13 Specific target organ toxicity - Repeated exposure

Ethoxyethyl 2-cyanoacrylate: No data available

11.14 Aspiration hazard

No data available

12. Ecological information

12.1 Acute toxicity to the aquatic environment

No data available.

12.2 Chronic toxicity to the aquatic environment

No data available.

13. Disposal considerations

13.1 Description of waste residues and information on their safe handling and methods of disposal

If you would like to dispose of this chemical, you should properly dispose of this by yourself or ask qualified specific agents dispose of this according to related legislations and local regulations. If you would like to ask the agents dispose of this chemical, you should provide sufficient information on dangerousness and hazard of this chemical.

13.2 The disposal of any contaminated packaging

Container should be recycled after cleaning or if you would like to dispose of container of this chemical, you should properly dispose of this by yourself or ask qualified specific agents dispose of this according to related legislations and local regulations. If you would like to ask the agents dispose of this container, you should provide sufficient information on dangerousness and hazard of this chemical in this container and information on ingredient and notice of container.

14. Transport information

14.1 U.S.Department of Transportation Ground Transport (49 CFR 172)

Proper shipping name: Unrestricted (Not more than 450 liters.)

Combustible liquids n.o.s. (Cyanoacrylate ester) (More than 450 liters)

Hazard class or division: Unrestricted (Not more than 450 liters.)

Combustible liquids. (More than 450 liters)

Identification number: None (Not more than 450 liters.)

NA1993 (More than 450 liters)

Marine pollutant: None.

14.2 International Air Transportation (ICA/IATA)

Proper shipping name: Unrestricted

Class or division: Unrestricted

UN or ID number: None

14.3 Water Transportation (IMO/IMDG)

Proper shipping name: Unrestricted

Hazard class or division: None

Identification number: None

Marine pollutant: None

15. Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question (under survey)

CA Proportion 65: No California proposition 65 chemicals are known to be present.

TSCA8(b) Inventory Status: All components are listed or are exempt from listing on Toxic Substances Control Act Inventory.

EINECS: All components are listed on EINECS

REACH: 2-ethoxyethyl 2-cyanoacrylate Reference number 05-2116448631-46-0000

16. Other information including information on preparation and revision of the MSDS

(Reference)

NITE GHS Classification of this substance (English/Japanese)

NITE review data by public comment (Japanese-Hydroquinone 2007.12.25)

GHS Model Label of this substance (English/Japanese)

GHS Model Label List of 714 Chemicals in OSH in Japan (English/Japanese)

GHS Classification Manual, Technical Guidance and Results of the classification in Japan (English/Japanese)

Technical Guidance on GHS classification in Japan (English/Japanese)

Japan Advanced Information center of Safety and Health - Chemical information (Only Japanese)

ICSC 1358 (English/Japanese)