

MATERIAL SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

1-1. Product name :

1-2. Synonym(s) : 1-3. Product Code :

1-4. General Use :

1-5. Company Name :

2. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredients	Wt%	CAS Registry No	Chemical Formula
Ethyl cyanoacrylate	80~89	7085-85-0	CH ₂ C(CN)COOC ₂ H ₅
PMMA	9.9	9011-14-7	[CH ₂ C(CH ₃)(CO ₂ CH ₃)] _n
Carbon Black	1%>	1333-86-4	C ₅

Inventory Status :

TSCA	Listed
EINECS No.	2303915
RTECS No.	UD3330050
ICSC No.	1358
EC No.	607-236-00-9

3. HAZARDS IDENTIFICATION

GHS Classification

3-1. Flammable Liquid Category :

3-2. Pyrophoric Liquids :

3-3. Corrosive To Metals :

3-4. Acute Toxicity (Oral) :

3-5. Acute Toxicity (Dermal) :

3-6. Skin Corrosion/
Irritation Category :

3-7. Eye Irritation Category :

3-8. Respiratory Sensitizer
Category :

3-9. Germ Cell Mutagenicity :	1B
3-10. Carcinogenicity :	2
3-11. Reproductive Toxicity :	1B
3-12. Target Organ Systemic Toxicity :	3(Respiratory Irritation) (Single Exposure)

GHS Label Elements

GHS Symbol Exclamation Mark, Health Hazard

GHS Signal Word Danger

Hazard Statements

Combustible Liquid.

Causes skin irritation.

Causes eye irritation.

May cause an allergic skin reaction.

May cause genetic defects

Suspected of causing cancer

May damage fertility or the unborn child

May cause respiratory irritation.

3-13. Emergency Overview :	Vapor is irritating to eyes, respiratory system and skin. (R36/37/38)
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3-14. Potential Health Effects :	May cause sensitization by inhalation. Narcotic effects, headache, dizziness, vomiting.
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3-15. Skin	dryness	3-16. Eye	irritation
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3-17. Potential Environmental Effects :	Not available.
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3-18. Signs And Symptoms Of Exposure :	Vapor is irritating to eyes and mucous membranes above TLV. Prolonged and repeated overexposure to vapors may produce symptoms of non-allergic asthma in sensitive individuals.
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3-19. Existing Conditions Aggravated By Exposure :	Unknown
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4. FIRST AID MEASURES

4-1. INGESTION :	Ingestion is not likely. See supplemental page for emergency procedures.
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4-2. INHALATION :	Don't breathe gas/fumes/vapor/spray (appropriate wording to be specified by the manufacturer). (S23) Evacuate from further exposure. If unconsciousness occurs,
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seek immediate medical assistance and call a physician. If the breath has stopped, have artificial respiration.
If breathing difficulty occurs, have oxygen inhalation.

4-3. Skin Contact :

Remove contaminated clothing. Wash contact areas with soap and much water.

4-4. Eye contact :

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. (S26)

5. FIRE FIGHTING MEASURES

5-1. FLASH POINT :

Above 75 °C (167. F) Cleveland open cup

5-2. Autoignition temperature :

485 °C (905. F)

5-3. Explosive Limits :

(%by volume in air) Lower : Not available

(%by volume in air) Upper : Not available

5-4. Recommended Extinguishing agents :

Carbon dioxide, foam, dry chemical

5-5. Special firefighting procedures :

Not available

5-6. Hazardous products formed by fire or thermal decomposition :

Irritating organic fragments.

5-7. Unusual fire or explosion hazards :

None.

6. ACCIDENTAL RELEASE MEASURES

Evacuate non essential personnel.

6-1. Shut off all sources of ignition :

No fires, smoking or flames in area.

*Ventilate area after material pick up is completed.

6-2. For small spills :

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

6-3. For large spills :

Dike for later disposal. Wash with plenty of water.

7. HANDLING AND STORAGE

7-1. Handling :

Keep away from sources of ignition and heat. No smoking or flames in working area.
Take precautionary measures against static discharges.
Avoid contact with skin and eyes. (S24/25)
Wear proper protective equipment.
Use only in well ventilated areas.
Use exhaust ventilation to keep air concentration below exposure limit.
Keep container tightly closed when not in use.
Install emergency showers and eye wash facility in working area.

7-2. Storage :

Keep away from all possible source of ignition.
Store in a cool, dry, well ventilated location.
Keep container tightly closed.
Keep away from combustible materials, heat, steam pipe or sunlight.
Keep away from oxidizing materials.

7-3. Other Precautions :

Wash hands, face and gargle after work.
Practice good personal hygiene after using this material, especially before eating, drinking, smoking or using the rest room.
Keep out of reach of children. (S2)

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8-1. Respiratory protection (Specify type) :

Chemical cartridge respirator with organic vapor.
Ventilation Local exhausts Should be used control vapors in work area.
Mechanical (General) Should use a breathing mask.

8-2. Protective gloves : Polyethylene gloves. No rubber.

8-3. Eye protection : Safety glasses, face shield.

8-4. Skin protection : Other protective clothing or equipment impervious clothing, apron and boots. Barrier creams, etc.

9. PHYSICAL AND CHEMICAL PROPERTIES

9-1. Appearance : Black liquid

9-2. Odor : irritating.

9-3. Boiling point : Above 190 °C(374. F)

9-4. Melting point :	N/A
9-5. Specific gravity (H2O =1) :	0.9 ~ 1.1
9-6. Vapor pressure (at25°C) :	1Pa
9-7. Vapor density (Air =1) :	4.5
9-8. Evaporation rate (Butyl acetate =1) :	N/A
9-9. Solubility in water :	Insoluble(polymerized by water)

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. Harardous decomposition or byproducts :	CO2, oxides and nitrogen and unknown hydrocarbons.

11. TOXICOLOGICAL INFORMATION

11-1. Toxicity :	Skin contact may cause burns. Bond skin rapidly and strongly. Skin and eye irritant.
11-2. Ethyl cyanoacrylate Oral LD50 :	above 5000 mg/kg (Acute)
11-3. Hydroquinone Oral LD50 :	302 mg/kg (Acute)
11-4. Routes of entry :	

Inhalation (Yes), Skin (Yes), Ingestion (Yes)	
Ingredients which have exposure limits	
ACGIH(TLV) OSHA(PEL) OTHER	
Ethyl cyanoacrylate	0.2 ppm TWA None None
Hydroquinone	2 mg/m3 TWA 2 mg/m3 TWA 2 mg/m3 TWA
	4 mg/m3 STEL
Target Organ And Other Health Effects	
Literature Referenced Carcinogen	
Ingredients Target Organ And Other Health Effects NTP IARC OSHA	
Ethyl cyanoacrylate	ALG IRR RES No No No

Hydroquinone AC3 BLO BNM CNS EYE IMM IRR LIV MUT No N/A

11-5. Abbreviations :

N/A Not applicable AC3 ACGIH animal carcinogen
ALG Allergen BLO Blood
BNM Bonen marrow CNS Central nervous system
EYE Eyes IMM Immune system
IRR Irritant LIV Liver
MUT Mutagen RES Respiratory

12. ECOLOGICAL INFORMATION

Not data available

13. DISPOSAL INFORMATION

13-1. Waste disposal method :

Don't pour drain. Follow domestic and local environmental regulations.
Precautions to be taken in handling and storing.
Avoid unnecessary exposure to air and moisture. Don't store above 25°C and in direct sunlight, Keep container lids tightly closed.

13-2. Other Precautions :

Avoid contact with skin and eyes. Protect eyes, skin and clothing from contact with liquid product.
Wear recommended equipment.

14. TRANSPORT INFORMATION

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

14-1. Proper shipping name :

Unrestricted (Not more than 450 liters.)
Combustible liquids n.o.s.(Cyanoacrylate ester) (More than 450 liters)

14-2. Hazard class or division :

Unrestricted (Not more than 450 liters.)
Combustible liquids. (More than 450 liters)

14-3. Identification number :

None (Not more than 450 liters.)
NA1993 (More than 450 liters)

14-4. Marine pollutant :

None.

14-5. International Air Transportation (ICA/IATA)

14-6. Proper shipping name :

Unrestricted.

14-7. Class or division :

Unrestricted.

14-8. UN or ID number :

14-9. Water Transportation (IMO/IMDG)

15. REGULATORY INFORMATION

15-1. CA Proportion 65 :

15-2. TSCA 8(b) Inventory Status :

15-3. EINECS All components are listed on EINECS

16. OTHER INFORMATION

16-1. Estimated NFPA Code :

16-2. Health Hazard :

16-3. Fire Hazard :

16-4. Reactivity Hazard :

16-5. Specific Hazard :

16-6. Estimated HMIS Code :

16-7. Health Hazard :

16-8. Flammability Hazard :

16-9. NFPA is a registered trademark of the National Fire Protection Assn.

16-10. HMIS is a registered trademark of the National Paint and Coating Assn.

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