

Material Safety Data Sheet

GA-410 Black toughened Cyanoacrylate Adhesive

GLOBAL ADHESIVES

1. Product Identification

Product Name **GA-410**
Product **Black Rubber Toughened High Performance, High Viscosity Cyanoacrylate Adhesives**

2. Composition

Ingredients	CAS#	WT%
Ethyl Cyanoacrylate	7085-85-0	90-99
Poly Methyl Methacrylate	9011-14-7	1-10
Proprietary Additive	Proprietary	4-6
Hydroquinone	12-31-9	.1-1.0

Ingredients That Have Exposure Limits

Exposure Limits (TWA)	ACGIH (TLV)	OSHA (PEL)	Other
Ethyl Cyanoacrylate	0.2 ppm TWA	None	None
Hydroquinone	2mg/m (TWA)	2mg/m3TWA	2mg/m3TWA 4mg/m3STEL

Exposure Limits (STEL)	(4ppm)	(4ppm)	
Ethyl Cyanoacrylate	(18mg.m3)	(16mg/m3)	

3. Hazard Identification

Toxicity Skin contact may cause burns. Bonds skin rapidly.
Skin and eye Irritant
Estimated oral LD more than 5,000 mg/kg.
Estimated dermal LD 50 more than 2,000 mg/kg.

Primary Routes of Entry None Known

Symptoms of Exposure Vapor is irritating to the mucous membrane when above TLV. Prolonged and repeated overexposure to vapors may produce allergic reactions with asthma like symptoms in sensitive individuals.

Existing Conditions Aggravated by Exposure None Known

Target Organs and Other Health Effects

		NTP	Carcinogens IARC	OSHA
Methyl Cyanoacrylate	Allergen, irritant, respiratory	No	No	No
Poly (methyl Methacrylate)	Irritant	No	N/A	No
Hydroquinone	ACGIH animal carcinogen, Blood, bone marrow, central Nervous system, eye, immune System, irritant, liver, skin, Mutagen, thyroid.	No	N/A	No

4. First Aid Measures and Personal Protection

Note: See supplemental page or emergency procedures and additional First Aid information

Ingestion Ingestion is not likely.
Inhalation Remove to fresh air. If symptoms persist, obtain medical attention.
Skin contact Soak in warm water.
Eye contact Flush with water

Personnel protection

Eye Chemical safety glasses or goggles.
Skin Polyethylene gloves and/or aprons. DO NOT use cotton/cloth type gloves
Ventilation Positive draft exhaust ventilation should be provided to maintain vapor concentration levels below TLV.

5. Fire Fighting Measures

Flash Point 160-200° F (Method TCC)
Extinguishing Agents Carbon dioxide, foam, dry chemical.

Special Fire Fighting

Procedures Not available
Hazardous Products Formed by Fire or Thermal Decomp Irritating organic vapors
Unusual Fire or Explosion Hazards None

GA-410 Page 2

5. Fire Fighting Measures (cont.)

Explosive Limits	
(% by volume in air) Lower	Not available
(% by volume in air) Upper	Not available

6. Accidental Release Measures

If a spill or leak occurs flood area with water to polymerize (cure) the material. Soak up with an inert absorbent.

7. Handling and Storage

Storage	Store below 72°F
Handling	Avoid contact with skin and eyes. Avoid breathing vapors.

8. Physical and Chemical Properties

Appearance	BLACK THICK LIQUID
Odor	Sharp, irritating
Boiling Point	More than 300°F
Solubility in Water	Polymerized
Specific Gravity	1.05 @ 75°F
Vapor Pressure	Less than .2mm @ 75°F
Vapor Density	3
VOC	87.1%; 914.55 g/l (EPA Method 24)

9. Stability and Reactivity

Stability	Stable
Hazardous Polymerization	Will not occur
Incompatibility	Polymerized by contact with water, alcohol, amines, alkalies
Conditions to Avoid	Not available
Hazardous Decomposition Products	(Non-thermal); None

10. Toxicological Information

Refer to number 3.

11. Ecological Information

No data available.

12. Disposal Considerations

Recommended methods of disposal	Polymerize as indicated in number 6. Incinerate following EPA and local regulations. EPA Hazardous waster number: NH-Not a RCRA Hazardous Waste Material.
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13. Transportation information

DOT (49CFR 172) Domestic Ground Transport

Proper Shipping Name	Unrestricted (not more than 450 liters) Combustible liquids, n.o.s.(Cyanoacrylates)(more than 450 liters)
Hazard Class or Division	Unrestricted (not more than 450 liters)
Identification Number	None (not more than one pint) NA 1993 (more than 450 liters)
Marine Pollutant	None

IATA

Proper Shipping Name	Unrestricted (not more than one pint) Aviation regulated liquid, n.o.s., (Cyanoacrylate)(more than one pint)
Class or Division	Unrestricted (not more than one pint) Class 9 (more than one pint)
UN or ID Number	None (not more than one pint) UN 3334 (more than one pint)

14. Regulatory Information

CA Proposition 65:	No Prop 65 chemicals known to be present
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REV 11/04

Surface Insensitive GA-410 Cyanoacrylate Adhesive

LIQUID PROPERTIES

Ester Base	Ethyl-2-cyanoacrylate
Appearance	BLACK
Flashpoint	>81°C
Density	1.05
Shelf Life	12 months, unopened
Viscosity (Brookfield) @ 25°C (Spindle 1, 20rpm)	4500 cP

POLYMER PROPERTIES

Appearance	BLACK, colorless
Softening Point	c. 130°C
Refractive Index, n_D^{20}	1.45
Full Cure Time	24 hours
Solubility	DMF, acetonitrile, acetone

CURED PERFORMANCE

Cure Speed

Balsa / Balsa	<5 seconds
Oak / Oak	90-180 seconds
Nitrile / Nitrile	<5 seconds
Neoprene / Neoprene	<5 seconds
EPDM / EPDM	<5 seconds
Steel / Steel	10-20 seconds
PVC / PVC	3-10 seconds
Polycarbonate / Polycarbonate	10-40 seconds

Sheer Strength

Grit Blasted Steel	>15 N/mm ²
Etched Aluminum	>11 N/mm ²
Nitrile Rubber	>10 N/mm ²
Polycarbonate	>12 N/mm ²

Tensile Strength

Grit Blasted Steel	>18 N/mm ²
Nitrile Rubber	>5 N/mm ²
Neoprene Rubber	>5 N/mm ²
EPDM Rubber	>2.5 N/mm ²

PRODUCT STORAGE

Global Adhesives, LLC. cyanoacrylates should ideally be stored in original sealed containers until used. Containers should be stored between 10C and 22C; avoid exposure to strong light and heat sources. Refrigeration prolongs shelf life.

DISCLAIMER

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