1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Tradename: GRIPTONITE PLASTIC

General use: Bonds skin and eyes immediately. In case of skin or eye contact, do not force bonded surfaces apart; follow first aid instructions below.

Chemical family: Cyanoacrylates

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Abbr.</th>
<th>CAS No.</th>
<th>Weight percent</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>Other Limits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl-2-cyanoacrylate</td>
<td></td>
<td>7085850</td>
<td>&gt;80</td>
<td>0.2 ppm</td>
<td>n/e</td>
<td>n/e</td>
</tr>
<tr>
<td>Polymethyl methacrylate</td>
<td></td>
<td>9011874</td>
<td>&lt;20</td>
<td>n/e</td>
<td>n/e</td>
<td>n/e</td>
</tr>
</tbody>
</table>

"TLV" means the Threshold Limit Value exposure (eight-hour, time-weighted average, unless otherwise noted) established by the American Conference of Governmental Industrial Hygienists. "STEL" indicates a short-term exposure limit. "PEL" indicates the OSHA Permissible Exposure Limit. "n/e" indicates that no exposure limit has been established. An asterisk (*) indicates a substance whose identity is a trade secret of our supplier and unknown to us.

3. HAZARDS IDENTIFICATION

Emergency Overview

Appearance, form, odor: colorless viscous liquid with slightly pungent odor.


Potential health effects

Primary routes of exposure: 
- Skin contact
- Skin absorption
- Eye contact
- Inhalation
- Ingestion

Symptoms of acute overexposure:

Skin: Bonds skin rapidly and strongly. Large quantities may cause burns.

Eyes: May bond eyelid. A large drop may cause a burn upon solidification. Lachrymator, double vision.

Inhalation:

Avoid prolonged inhalation. Vapors may cause irritation of nose and bronchial passages.
Ingestion:
The adhesive solidifies and adheres in the mouth, almost impossible to swallow. Lips may bond.

Effects of chronic overexposure:
Possible respiratory sensitization, asthmatic effects.

Carcinogenicity -- OSHA regulated: No ACGIH: No National Toxicology Program: No
International Agency for Research on Cancer: No
Cancer-suspect constituent(s) : none

Medical conditions which may be aggravated by exposure:
Eye, skin, respiratory disorders.

Other effects:
None known.

4. FIRST AID MEASURES

First aid for eyes:
Flush with lukewarm water for 15 minutes. Call a physician immediately. Do not attempt to peel bonded eyelid from eye!

First aid for skin:
Immerse in warm soapy water. Do not force apart.

First aid for inhalation:
Move to fresh air. If symptoms persist, call a physician.

First aid for ingestion:
Apply warm water to lips. Use maximum wetting with saliva. Position victim to prevent ingestion of solid. Call a physician.

5. FIRE FIGHTING MEASURES

Extinguishing media:
- Water
- Carbon dioxide
- Dry chemical
- Foam
- Alcohol foam

Flash Point (°F): > 170  Method: SCC

Explosive limits in air (percent) --  Lower: nd  Upper: nd

Special firefighting procedures:
Wear full protective equipment including self-contained breathing apparatus.

Unusual fire and explosion hazards:
Water may spread fire due to product floating on surface. Cloths used to wipe spills may polymerize and auto-ignite.

Hazardous products of combustion:
Oxides of carbon, oxides of nitrogen, trace amounts of hydrogen cyanide and unidentified organic combustion products.

6. ACCIDENTAL RELEASE MEASURES

Spill control:
Flood area with water to cure and to control product vapors. Wear protective clothing and a NIOSH approved respirator for organic vapors or a self-contained breathing apparatus if needed.

Containment:
N/A
Cleanup:
Scrape up cured product and dispose of in accordance with all applicable disposal regulations.

Special procedures:
Contact with cotton or wool may result in a strong exothermic reaction which can result in a fire.

7. HANDLING AND STORAGE

Handling precautions:
Cyanoacrylates bond skin rapidly and strongly. May also bond eyelid to eyelid and/or skin. Wear appropriate personal protective equipment (see Section 8). Provide appropriate ventilation/respiratory protection against decomposition products (see Section 10) during welding/flame cutting operations and to protect against nuisance dust during sanding/grinding of cured product.

Storage:
Store away from heat and direct sunlight. Store in a dry location. Keep container tightly closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls

Ventilation:
General ventilation is adequate for occasional use. Where the adhesive is in continual use or is heated, or heating cured adhesive over 400 °F, provide local exhaust to keep vapors below the TLV.

Other engineering controls:
Have emergency shower and eye wash available.

Personal protective equipment

Eye and face protection:
Safety glasses with side shields or safety goggles.

Skin protection:
Polyethylene gloves and apron. Do not wear rubber or cloth gloves.

Respiratory protection:
Use NIOSH approved respirator for organic vapors or self-contained breathing apparatus if appropriate ventilation is not available.

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specific gravity</td>
<td>1.06</td>
</tr>
<tr>
<td>Melting point (°F)</td>
<td>n/d</td>
</tr>
<tr>
<td>Vapor pressure (mmHg)</td>
<td>0.17 mm Hg at 68 °F</td>
</tr>
<tr>
<td>VOC (grams/liter)</td>
<td>n/d</td>
</tr>
<tr>
<td>Percent volatile by volume</td>
<td>0</td>
</tr>
<tr>
<td>Percent solids by weight</td>
<td>100</td>
</tr>
<tr>
<td>Boiling point (°F)</td>
<td>n/d</td>
</tr>
<tr>
<td>Vapor density (air = 1)</td>
<td>&gt;1</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>&lt;0.1%</td>
</tr>
<tr>
<td>pH (5% solution or slurry in water)</td>
<td>n/d</td>
</tr>
</tbody>
</table>
10. STABILITY AND REACTIVITY
This material is chemically unstable. Hazardous polymerization may occur.

Conditions to avoid:
High temperatures and humidity

Incompatible materials:
Base cotton, wool, water, alkaline materials

Hazardous products of decomposition:
Oxides of carbon, oxides of nitrogen, trace amounts of hydrogen cyanide and unidentified organic decomposition products.

Conditions under which hazardous polymerization may occur:
Contamination with water, alkaline materials or peroxides may build-up pressure in a closed container.

11. TOXICOLOGICAL INFORMATION

Acute oral effects: LD50 (rat): not determined

Acute dermal effects: LD50 (rabbit): not determined
Instantly bonds skin. Large drops may cause burns upon solidification.

Acute inhalation effects: LC50 (rat): not determined
Exposure: hours.
Causes irritation of nose and bronchial passages.

Eye irritation:
Instantly bonds eyelid to eyelid and/or eye.

Subchronic effects:
None known.

Carcinogenicity, teratogenicity, and mutagenicity:
None known.

Other chronic effects:
None known.

Toxicological information on hazardous chemical constituents of this product:

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Oral LD50 (rat)</th>
<th>Dermal LD50 (rabbit)</th>
<th>Inhalation LC50 4hr, (rat)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl-2-cyanoacrylate</td>
<td>n/d</td>
<td>n/d</td>
<td>n/d</td>
</tr>
<tr>
<td>Polymethyl methacrylate</td>
<td>n/d</td>
<td>n/d</td>
<td>n/d</td>
</tr>
</tbody>
</table>

'n/d' = 'not determined'

12 ECOLOGICAL INFORMATION

Ecotoxicity:
No data available.

Mobility and persistence:
Environmental fate:
No data available.

13. DISPOSAL CONSIDERATIONS

Waste management recommendations:
As shipped this product is not a hazardous waste as specified in 40 CFR 261. Dispose of according to local, state, and federal regulations.

Please see also Section 15, Regulatory Information.

14. TRANSPORT INFORMATION

Proper shipping name: Non-regulated
Technical name: N/A
Hazard class: N/A
UN number: N/A
Packing group: N/A
Emergency Response Guide no.: N/A
IMDG page number: N/A
Other:

15. REGULATORY INFORMATION

U.S. Federal Regulations

TSCA
All ingredients of this product are listed, or are exempt from listing, on the TSCA inventory.

The following RCRA code(s) applies to this material if it becomes waste:
None

Regulatory status of hazardous chemical constituents of this product:

<table>
<thead>
<tr>
<th>Constituent</th>
<th>Extremely Hazardous*</th>
<th>Toxic Chemical**</th>
<th>CERCLA RQ (lbs)</th>
<th>TSCA 12B Export Notification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethyl-2-cyanoacrylate</td>
<td>No</td>
<td>No</td>
<td>0.0</td>
<td>Not required</td>
</tr>
<tr>
<td>Polymethyl methacrylate</td>
<td>No</td>
<td>No</td>
<td>0.0</td>
<td>Not required</td>
</tr>
</tbody>
</table>

*Consult the appropriate regulations for emergency planning and release reporting requirements for substances on the SARA Section 301 Extremely Hazardous Substance list.

**Substances for which the "Toxic Chemical" column is marked "Yes" are on the SARA Section 313 list of Toxic Chemicals, for which release reporting may be required. For specific requirements, consult the appropriate regulations.

For purposes of SARA Section 312 hazardous materials inventory reporting, the following hazard
classes apply to this material:
- Immediate health hazard -- Fire hazard -

Canadian regulations
WHMIS hazard class(es) :  D2B; B3
All components of this product are on the Domestic Substances List.

16. OTHER INFORMATION

<table>
<thead>
<tr>
<th>Hazardous Materials Identification System (HMIS) ratings</th>
<th>Health</th>
<th>Flammability</th>
<th>Reactivity</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2*</td>
<td>2</td>
<td>2</td>
</tr>
</tbody>
</table>

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