1. IDENTIFICATION

Product identifier
Product Name
84109 STEEL WELD (HARDENER)

Other means of identification
Product Code
PTX203008B

Recommended use of the chemical and restrictions on use
Recommended Use
Epoxy curing agent.

Uses advised against
No information available

Details of the supplier of the safety data sheet
Manufacturer Address
ITW Permatex
6875 Parkland Blvd.
Solon, OH 44139 USA

May Also Be Distributed by:
ITW Permatex Canada
35 Brownridge Road, Unit 1
Halton Hills, ON Canada L7G 0C6

Telephone: (800) 924-6994

24-hour emergency phone number
Chem-Tel: 800-255-3924
International Emergency:
00+1 813-248-0585
Contract Number: MIS0003453

E-mail address
mail@permatex.com

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Skin corrosion/irritation</th>
<th>Category 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2A</td>
</tr>
<tr>
<td>Skin sensitization</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

Label elements

Emergency Overview

Signal word
Warning

Causes skin irritation
Causes serious eye irritation
May cause an allergic skin reaction
Precautionary Statements - Prevention
Avoid breathing dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Do not eat, drink or smoke when using this product
Contaminated work clothing should not be allowed out of the workplace

Precautionary Statements - Response
IF exposed or concerned: Get medical advice/attention
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
If eye irritation persists: Get medical advice/attention
IF ON SKIN: Wash with plenty of soap and water
If skin irritation or rash occurs: Get medical advice/attention
Take off contaminated clothing and wash before reuse

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

Precautionary Statements - Disposal
Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)
Not applicable

Other Information
- Not applicable
Unknown acute toxicity 98 % of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Substance(s)</th>
<th>Chemical Name</th>
<th>CAS No</th>
<th>Weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MERCAPTAN AMINE</td>
<td></td>
<td>30 - 60</td>
</tr>
<tr>
<td></td>
<td>2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL</td>
<td>90-72-2</td>
<td>10 - 30</td>
</tr>
<tr>
<td></td>
<td>CRystalline Silica</td>
<td>14808-60-7</td>
<td>0.1 - 1</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES

Description of first aid measures

General advice
Get medical advice/attention if you feel unwell.

Eye contact
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Skin contact
IF ON SKIN:. Wash with soap and water. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Inhalation
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If symptoms persist, call a physician.

Ingestion
IF SWALLOWED: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Call a physician.

Self-protection of the first aider
Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Most important symptoms and effects, both acute and delayed

Symptoms
See section 2 for more information.

Indication of any immediate medical attention and special treatment needed

Note to physicians
Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Carbon dioxide (CO2), Dry chemical, Foam

Unsuitable extinguishing media
None.

Specific hazards arising from the chemical
None in particular.

Explosion data
Sensitivity to Mechanical Impact
None.
Sensitivity to Static Discharge
None.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Ensure adequate ventilation, especially in confined areas. Avoid contact with eyes and skin. Use personal protective equipment as required.

Environmental precautions
Environmental precautions
See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up

Methods for containment
Prevent further leakage or spillage if safe to do so.

Methods for cleaning up
Ensure adequate ventilation. Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

Prevention of secondary hazards
Clean contaminated objects and areas thoroughly observing environmental regulations.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling
Handle in accordance with good industrial hygiene and safety practice. Avoid breathing
vapors or mists. Avoid contact with skin, eyes or clothing. Wash thoroughly after handling. Wash contaminated clothing before reuse. Use personal protective equipment as required.

Conditions for safe storage, including any incompatibilities

Storage Conditions
Keep containers tightly closed in a dry, cool and well-ventilated place.

Incompatible materials
Strong oxidizing agents, Acids, Peroxides, Calcium hypochlorite, Sodium hypochlorite

8. EXPOSURE CONTROLS/PERSOAL PROTECTION

Control parameters

Exposure Guidelines

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRYSTALLINE SILICA</td>
<td>TWA: 0.025 mg/m³</td>
<td>(vacated) TWA: 0.1 mg/m³</td>
<td>IDLH: 50 mg/m³</td>
</tr>
<tr>
<td>14808-60-7</td>
<td>respirable fraction</td>
<td>respirable dust</td>
<td>respirable dust</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(30)/(%SiO₂ + 2) mg/m³ TWA</td>
<td>TWA: 0.05 mg/m³</td>
</tr>
<tr>
<td></td>
<td></td>
<td>total dust</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(250)/(%SiO₂ + 5) mppcf TWA</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>respirable fraction</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(10)/(%SiO₂ + 2) mg/m³ TWA</td>
<td></td>
</tr>
</tbody>
</table>

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information
Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls
Engineering Controls
Showers
Eyewash stations
Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear safety glasses with side shields (or goggles).

Skin and body protection
Wear protective natural rubber, nitrile rubber, Neoprene™ or PVC gloves.

Respiratory protection
Use NIOSH-approved air-purifying respirator with organic vapor cartridge or canister, as appropriate.

General Hygiene Considerations
Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Viscous liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>White</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Mercaptan</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Melting point / freezing point</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>&gt; 93 °C / &gt; 200 °F</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No information available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limit in Air</td>
<td>No information available</td>
<td></td>
</tr>
</tbody>
</table>
Upper flammability limit: No information available
Lower flammability limit: No information available
Vapor pressure <1mmHg @ 70°F
Vapor density >1
Relative density 1.13
Water solubility Negligible
Solubility in other solvents No information available
Partition coefficient No information available
Autoignition temperature No information available
Decomposition temperature No information available
Kinematic viscosity No information available
Dynamic viscosity No information available
Explosive properties No information available
Oxidizing properties No information available

10. STABILITY AND REACTIVITY

Reactivity
Stable under normal conditions

Chemical stability
Stable under recommended storage conditions

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Excessive heat.

Incompatible materials
Strong oxidizing agents, Acids, Peroxides, Calcium hypochlorite, Sodium hypochlorite

Hazardous Decomposition Products
Carbon oxides
Nitrogen oxides (NOx)
Oxides of sulfur

Information on likely routes of exposure

Inhalation May cause irritation of respiratory tract.
Eye contact Contact with eyes may cause irritation. May cause redness and tearing of the eyes.
Skin contact May cause skin irritation and/or dermatitis. May cause sensitization by skin contact.
Ingestion Ingestion may cause irritation to mucous membranes.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4,6-TRIS(DIMETHYLAMINOMETHYL)PHENOL 90-72-2</td>
<td>= 1200 mg/kg ( Rat )</td>
<td>= 1280 mg/kg ( Rat )</td>
<td>-</td>
</tr>
<tr>
<td>CRYSTALLINE SILICA 14808-60-7</td>
<td>= 500 mg/kg ( Rat )</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
Information on toxicological effects

Symptoms
No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization
No information available.

Germ cell mutagenicity
No information available.

Carcinogenicity
The table below indicates whether each agency has listed any ingredient as a carcinogen.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH</th>
<th>IARC</th>
<th>NTP</th>
<th>OSHA</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRYSTALLINE SILICA</td>
<td>A2</td>
<td>Group 1</td>
<td>Known</td>
<td>X</td>
</tr>
</tbody>
</table>

ACGIH (American Conference of Governmental Industrial Hygienists)
A2 - Suspected Human Carcinogen
IARC (International Agency for Research on Cancer)
Group 1 - Carcinogenic to Humans
NTP (National Toxicology Program)
Known - Known Carcinogen
OSHA (Occupational Safety and Health Administration of the US Department of Labor)
X - Present

Target Organ Effects
Eyes, Respiratory system, Skin.

The following values are calculated based on chapter 3.1 of the GHS document.

ATEmix (oral) 4400 mg/kg

12. ECOLOGICAL INFORMATION

Ecotoxicity
99.5 % of the mixture consists of component(s) of unknown hazards to the aquatic environment

Persistence and degradability
No information available.

Bioaccumulation
No information available.

Mobility
No information available.

Other adverse effects
No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods
Disposal of wastes
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging
Do not reuse container.

US EPA Waste Number
Not applicable

14. TRANSPORT INFORMATION

DOT
Proper shipping name: Not regulated
IATA

Proper shipping name: Not regulated

IMDG

Proper shipping name: Not regulated

15. REGULATORY INFORMATION

International Inventories

<table>
<thead>
<tr>
<th>Name</th>
<th>Complies/Not determined</th>
</tr>
</thead>
<tbody>
<tr>
<td>TSCA</td>
<td>Complies</td>
</tr>
<tr>
<td>DSL/NDSL</td>
<td>Complies</td>
</tr>
<tr>
<td>EINECS/ELINCS</td>
<td>Not determined</td>
</tr>
<tr>
<td>ENCS</td>
<td>Complies</td>
</tr>
<tr>
<td>IECSC</td>
<td>Complies</td>
</tr>
<tr>
<td>KECL</td>
<td>Complies</td>
</tr>
<tr>
<td>PICCS</td>
<td>Complies</td>
</tr>
<tr>
<td>AICS</td>
<td>Complies</td>
</tr>
</tbody>
</table>

Legend:

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS - Japan Existing and New Chemical Substances
- IECSC - China Inventory of Existing Chemical Substances
- KECL - Korean Existing and Evaluated Chemical Substances
- PICCS - Philippines Inventory of Chemicals and Chemical Substances
- AICS - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute health hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden release of pressure hazard</td>
<td>No</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

CERCLA

This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

US State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>California Proposition 65</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRYSTALLINE SILICA - 14808-60-7</td>
<td>*Carcinogen</td>
</tr>
</tbody>
</table>

* The asterisked chemical(s) listed are not subject to Proposition 65 because they are not airborne in the finished product.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>LIMESTONE</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
U.S. EPA Label Information
EPA Pesticide Registration Number Not applicable

WHMIS Hazard Class
D2B - Toxic materials

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION

NFPA
Health hazards 2 Flammability 1 Instability 0 -

HMIS
Health hazards 2 Flammability 1 Physical hazards 0 Personal protection B

NFPA (National Fire Protection Association)
HMIS (Hazardous Material Information System)

Revision Date 20-Mar-2018

Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet