

# Permatex Steel Weld

ITW AAMTech

Chemwatch Hazard Alert Code: 2

Chemwatch: 5166-95

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Material Safety Data Sheet according to NOHSC and ADG requirements

Initial Date: **Not Available**

S.Local.AUS.EN

## SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

### Product Identifier

|                                      |   |
|--------------------------------------|---|
| <b>Product name</b>                  | Permatex Steel Weld   |
| <b>Synonyms</b>                      | Product Code:PX84332, Product type: Epoxy, Steel Weld 2 oz. |
| <b>Other means of identification</b> | Not Available   |

### Relevant identified uses of the substance or mixture and uses advised against

|                                 |   |
|---------------------------------|---|
| <b>Relevant identified uses</b> | Use according to manufacturer's directions. |
|---------------------------------|---|

### Details of the manufacturer/importer

|                                |                                       |
|--------------------------------|---------------------------------------|
| <b>Registered company name</b> | ITW AAMTech                           |
| <b>Address</b>                 | 100 Hassall Street 2164 NSW Australia |
| <b>Telephone</b>               | 1800 177 989                          |
| <b>Fax</b>                     | 1800 308 556                          |
| <b>Website</b>                 | www.aamtech.com.au                    |
| <b>Email</b>                   | info@aamtech.com.au                   |

### Emergency telephone number

|  |                 |
|--|-----------------|
| <b>Association / Organisation</b>        | Not Available   |
| <b>Emergency telephone numbers</b>       | 1800 039 008    |
| <b>Other emergency telephone numbers</b> | +61 3 9573 3112 |

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

**HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS.** According to the Criteria of NOHSC, and the ADG Code.

|  |  |  |
|--|--|--|
| <b>Poisons Schedule</b>                  | Not Applicable   |  |
| <b>Risk Phrases</b> <sup>[1]</sup>       | <b>R20/22</b>  | Harmful by inhalation and if swallowed.          |
|  | <b>R36/37/38</b>   | Irritating to eyes, respiratory system and skin. |
|  | <b>R43</b>   | May cause SENSITISATION by skin contact.         |
| <b>Legend:</b>                           | 1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI   |  |
| <b>GHS Classification</b> <sup>[1]</sup> | Acute Toxicity (Oral) Category 4, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2, Skin Sensitizer Category 1, STOT - SE (Resp. Irr.) Category 3 |  |
| <b>Legend:</b>                           | 1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI   |  |

### Label elements

Continued...

Permatex Steel Weld

|                           |   |
|---------------------------|---|
| <b>GHS label elements</b> |  |
|---------------------------|---|

|                    |                |
|--------------------|----------------|
| <b>SIGNAL WORD</b> | <b>WARNING</b> |
|--------------------|----------------|

**Hazard statement(s)**

|             |                                     |
|-------------|-------------------------------------|
| <b>H302</b> | Harmful if swallowed                |
| <b>H332</b> | Harmful if inhaled                  |
| <b>H315</b> | Causes skin irritation              |
| <b>H319</b> | Causes serious eye irritation       |
| <b>H317</b> | May cause an allergic skin reaction |
| <b>H335</b> | May cause respiratory irritation    |

**Precautionary statement(s) Prevention**

|             |  |
|-------------|--|
| <b>P271</b> | Use only outdoors or in a well-ventilated area.                            |
| <b>P280</b> | Wear protective gloves/protective clothing/eye protection/face protection. |
| <b>P261</b> | Avoid breathing dust/fume/gas/mist/vapours/spray.                          |
| <b>P270</b> | Do not eat, drink or smoke when using this product.                        |

**Precautionary statement(s) Response**

|                       |  |
|-----------------------|--|
| <b>P302+P352</b>      | IF ON SKIN: Wash with plenty of water and soap   |
| <b>P305+P351+P338</b> | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| <b>P333+P313</b>      | If skin irritation or rash occurs: Get medical advice/attention.   |
| <b>P337+P313</b>      | If eye irritation persists: Get medical advice/attention.  |

**Precautionary statement(s) Storage**

|                  |  |
|------------------|--|
| <b>P405</b>      | Store locked up.   |
| <b>P403+P233</b> | Store in a well-ventilated place. Keep container tightly closed. |

**Precautionary statement(s) Disposal**

|             |  |
|-------------|--|
| <b>P501</b> | Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration |
|-------------|--|

**Label elements**



Relevant risk statements are found in section 2

|                                |    |
|--------------------------------|----|
| <b>Indication(s) of danger</b> | Xn |
|--------------------------------|----|

**SAFETY ADVICE**

|            |  |
|------------|--|
| <b>S02</b> | Keep out of reach of children.   |
| <b>S13</b> | Keep away from food, drink and animal feeding stuffs.  |
| <b>S22</b> | Do not breathe dust.   |
| <b>S24</b> | Avoid contact with skin.   |
| <b>S26</b> | In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre. |
| <b>S35</b> | This material and its container must be disposed of in a safe way.   |
| <b>S37</b> | Wear suitable gloves.  |
| <b>S39</b> | Wear eye/face protection.  |
| <b>S40</b> | To clean the floor and all objects contaminated by this material, use water and detergent.                 |
| <b>S46</b> | If swallowed, seek medical advice immediately and show this container or label.                            |
| <b>S51</b> | Use only in well ventilated areas.   |

|            |  |
|------------|--|
| <b>S56</b> | Dispose of this material and its container at hazardous or special waste collection point. |
| <b>S64</b> | If swallowed, rinse mouth with water (only if the person is conscious).                    |

### Other hazards

## SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

### Substances

See section below for composition of Mixtures

### Mixtures

| CAS No     | %[weight] | Name   |
|------------|-----------|--|
| 14807-96-6 | 30-60     | <a href="#">talc</a>                               |
| 25068-38-6 | 10-30     | <a href="#">bisphenol A/ epichlorohydrin resin</a> |
| 65997-17-3 | 10-30     | <a href="#">glass, oxide</a>                       |
| 8049-17-0  | 10-30     | <a href="#">ferrosilicon</a>                       |
| 37244-96-5 | <5        | <a href="#">nepheline syenite</a>                  |
| 14808-60-7 | 0.1-1     | <a href="#">silica crystalline - quartz</a>        |

## SECTION 4 FIRST AID MEASURES

### Description of first aid measures

|                     |   |
|---------------------|---|
| <b>Eye Contact</b>  | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>  |
| <b>Skin Contact</b> | <p>If skin contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>   |
| <b>Inhalation</b>   | <ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor, without delay.</li> </ul>  |
| <b>Ingestion</b>    | <ul style="list-style-type: none"> <li>▶ <b>IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.</b></li> <li>▶ For advice, contact a Poisons Information Centre or a doctor.</li> <li>▶ Urgent hospital treatment is likely to be needed.</li> <li>▶ In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.</li> <li>▶ If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the MSDS should be provided. Further action will be the responsibility of the medical specialist.</li> <li>▶ If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the MSDS.</li> </ul> <p><b>Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:</b></p> <ul style="list-style-type: none"> <li>▶ <b>INDUCE</b> vomiting with fingers down the back of the throat, <b>ONLY IF CONSCIOUS</b>. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> </ul> <p><b>NOTE:</b> Wear a protective glove when inducing vomiting by mechanical means.</p> |

### Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

## SECTION 5 FIREFIGHTING MEASURES

**Extinguishing media**

|  |   |
|--|---|
|  | <ul style="list-style-type: none"> <li>▶ Water spray or fog.</li> <li>▶ Foam.</li> <li>▶ Dry chemical powder.</li> <li>▶ BCF (where regulations permit).</li> </ul> |
|--|---|

**Special hazards arising from the substrate or mixture**

|                             |  |
|-----------------------------|--|
| <b>Fire Incompatibility</b> | ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
|-----------------------------|--|

**Advice for firefighters**

|                              |   |
|------------------------------|---|
| <b>Fire Fighting</b>         | <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water courses.</li> <li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li> </ul>  |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ <b>DO NOT disturb burning dust. Explosion may result if dust is stirred into a cloud, by providing oxygen to a large surface of hot metal.</b></li> <li>▶ <b>DO NOT use water or foam as generation of explosive hydrogen may result.</b></li> </ul> <p>With the exception of the metals that burn in contact with air or water (for example, sodium), masses of combustible metals do not represent unusual fire risks because they have the ability to conduct heat away from hot spots so efficiently that the heat of combustion cannot be maintained - this means that it will require a lot of heat to ignite a mass of combustible metal.</p> |

**SECTION 6 ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

|                     |  |
|---------------------|--|
| <b>Minor Spills</b> | <ul style="list-style-type: none"> <li>▶ Remove all ignition sources.</li> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid contact with skin and eyes.</li> <li>▶ Control personal contact with the substance, by using protective equipment.</li> </ul>           |
| <b>Major Spills</b> | <p>Moderate hazard.</p> <ul style="list-style-type: none"> <li>▶ <b>CAUTION:</b> Advise personnel in area.</li> <li>▶ Alert Emergency Services and tell them location and nature of hazard.</li> <li>▶ Control personal contact by wearing protective clothing.</li> </ul> |
|                     | Personal Protective Equipment advice is contained in Section 8 of the MSDS.  |

**SECTION 7 HANDLING AND STORAGE****Precautions for safe handling**

|                          |   |
|--------------------------|---|
| <b>Safe handling</b>     | <p>For molten metals:</p> <ul style="list-style-type: none"> <li>▶ Molten metal and water can be an explosive combination. The risk is greatest when there is sufficient molten metal to entrap or seal off water. Water and other forms of contamination on or contained in scrap or remelt ingot are known to have caused explosions in melting operations. While the products may have minimal surface roughness and internal voids, there remains the possibility of moisture contamination or entrapment.</li> </ul> |
| <b>Other information</b> | <ul style="list-style-type: none"> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ Store in a cool, dry area protected from environmental extremes.</li> <li>▶ Store away from incompatible materials and foodstuff containers.</li> </ul> <p> Store under 37 deg C.</p>   |

**Conditions for safe storage, including any incompatibilities**

|                                |  |
|--------------------------------|--|
| <b>Suitable container</b>      | <ul style="list-style-type: none"> <li>▶ Bulk bags: Reinforced bags required for dense materials.</li> <li>▶ Polyethylene or polypropylene container.</li> <li>▶ Check all containers are clearly labelled and free from leaks.</li> </ul>   |
| <b>Storage incompatibility</b> | <p>For frits:</p> <ul style="list-style-type: none"> <li>▶ Avoid storage with hydrogen fluoride/ hydrofluoric acid, oxygen difluoride, manganese trifluoride, fluorine and other fluorine containing compounds, manganese trioxide, chlorates, chlorine trifluoride, chlorine trioxide, strong alkalis, metal oxides, concentrated orthophosphoric acid or vinyl acetate.</li> <li>▶ <b>WARNING:</b> Avoid or control reaction with peroxides. All <i>transition metal</i> peroxides should be considered as potentially explosive. For example transition metal complexes of alkyl hydroperoxides may decompose explosively.</li> </ul> |

**PACKAGE MATERIAL INCOMPATIBILITIES**

Not Available

Continued...

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**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Control parameters**

**OCCUPATIONAL EXPOSURE LIMITS (OEL)**

**INGREDIENT DATA**

| Source                       | Ingredient                  | Material name  | TWA                 | STEL          | Peak          | Notes         |
|------------------------------|-----------------------------|--|---------------------|---------------|---------------|---------------|
| Australia Exposure Standards | talc                        | Soapstone (respirable dust) / Talc, (containing no asbestos fibres)      | 3 mg/m3 / 2.5 mg/m3 | Not Available | Not Available | Not Available |
| Australia Exposure Standards | ferrosilicon                | Fume (thermally generated) (respirable dust)(g)                          | 2 mg/m3             | Not Available | Not Available | Not Available |
| Australia Exposure Standards | silica crystalline - quartz | Silica - Crystalline Quartz (respirable dust) / Quartz (respirable dust) | 0.1 mg/m3           | Not Available | Not Available | Not Available |

**EMERGENCY LIMITS**

| Ingredient                         | Material name   | TEEL-1      | TEEL-2      | TEEL-3      |
|------------------------------------|---|-------------|-------------|-------------|
| talc                               | Talc  | 2 mg/m3     | 2 mg/m3     | 2.6 mg/m3   |
| bisphenol A/ epichlorohydrin resin | Epoxy resin (EPON 1001)   | 90 mg/m3    | 990 mg/m3   | 5900 mg/m3  |
| bisphenol A/ epichlorohydrin resin | Epoxy resin (EPON 1007)   | 90 mg/m3    | 990 mg/m3   | 5900 mg/m3  |
| bisphenol A/ epichlorohydrin resin | Epoxy resin (EPON 820)  | 41 mg/m3    | 450 mg/m3   | 2700 mg/m3  |
| bisphenol A/ epichlorohydrin resin | Epoxy resin ERL-2795  | 32 mg/m3    | 350 mg/m3   | 2100 mg/m3  |
| glass, oxide                       | Fibrous glass; (Fiber glass; Glass frit; Synthetic vitreous fibers) | 15 mg/m3    | 170 mg/m3   | 990 mg/m3   |
| ferrosilicon                       | Particulate material (PNOS)   | 30 mg/m3    | 330 mg/m3   | 2000 mg/m3  |
| silica crystalline - quartz        | Silica, crystalline-quartz; (Silicon dioxide)                       | 0.025 mg/m3 | 0.025 mg/m3 | 0.025 mg/m3 |

| Ingredient                         | Original IDLH         | Revised IDLH  |
|------------------------------------|-----------------------|---------------|
| talc                               | N.E. mg/m3 / N.E. ppm | 1,000 mg/m3   |
| bisphenol A/ epichlorohydrin resin | Not Available         | Not Available |
| glass, oxide                       | Not Available         | Not Available |
| ferrosilicon                       | Not Available         | Not Available |
| nepheline syenite                  | Not Available         | Not Available |
| silica crystalline - quartz        | N.E. mg/m3 / N.E. ppm | 50 mg/m3      |

**Exposure controls**

|   |  |
|---|--|
| <b>Appropriate engineering controls</b> | <p>Metal dusts must be collected at the source of generation as they are potentially explosive.</p> <ul style="list-style-type: none"> <li>▶ Avoid ignition sources.</li> <li>▶ Good housekeeping practices must be maintained.</li> <li>▶ Dust accumulation on the floor, ledges and beams can present a risk of ignition, flame propagation and secondary explosions.</li> </ul>   |
| <b>Personal protection</b>              |   |
| <b>Eye and face protection</b>          | <ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.</li> </ul>  |
| <b>Skin protection</b>                  | See Hand protection below  |
| <b>Hands/feet protection</b>            | <p><b>NOTE:</b></p> <ul style="list-style-type: none"> <li>▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.</li> <li>▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.</li> </ul> <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from</p> |

|                         |  |
|-------------------------|--|
|                         | manufacturer to manufacturer.  |
| <b>Body protection</b>  | See Other protection below   |
| <b>Other protection</b> | <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ P.V.C. apron.</li> <li>▶ Barrier cream.</li> </ul> |
| <b>Thermal hazards</b>  | Not Available  |

## Recommended material(s)

### GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

**"Forsberg Clothing Performance Index".**

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

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| Material | CPI |
|----------|-----|
|----------|-----|

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

## Respiratory protection

Type BAX-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator    |
|------------------------------------|----------------------|----------------------|---------------------------|
| up to 10 x ES                      | BAX-AUS P2           | -                    | BAX-PAPR-AUS / Class 1 P2 |
| up to 50 x ES                      | -                    | BAX-AUS / Class 1 P2 | -                         |
| up to 100 x ES                     | -                    | BAX-2 P2             | BAX-PAPR-2 P2 ^           |

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

|   |  |  |                |
|---|--|--|----------------|
| <b>Appearance</b>                                   | Grey coloured solid with pungent sulfur odour, not soluble in water. |  |                |
| <b>Physical state</b>                               | Solid  | <b>Relative density (Water = 1)</b>            | 2.25           |
| <b>Odour</b>  | Not Available  | <b>Partition coefficient n-octanol / water</b> | Not Available  |
| <b>Odour threshold</b>                              | Not Available  | <b>Auto-ignition temperature (°C)</b>          | Not Available  |
| <b>pH (as supplied)</b>                             | Not Available  | <b>Decomposition temperature</b>               | Not Available  |
| <b>Melting point / freezing point (°C)</b>          | Not Available  | <b>Viscosity (cSt)</b>                         | Not Available  |
| <b>Initial boiling point and boiling range (°C)</b> | Not Available  | <b>Molecular weight (g/mol)</b>                | Not Applicable |
| <b>Flash point (°C)</b>                             | >93  | <b>Taste</b>                                   | Not Available  |
| <b>Evaporation rate</b>                             | Not Available  | <b>Explosive properties</b>                    | Not Available  |
| <b>Flammability</b>                                 | Not Applicable   | <b>Oxidising properties</b>                    | Not Available  |
| <b>Upper Explosive Limit (%)</b>                    | Not Available  | <b>Surface Tension (dyn/cm or mN/m)</b>        | Not Applicable |
| <b>Lower Explosive Limit (%)</b>                    | Not Available  | <b>Volatile Component (%vol)</b>               | 0 Wt%          |
| <b>Vapour pressure (kPa)</b>                        | Negligible   | <b>Gas group</b>                               | Not Available  |
| <b>Solubility in water (g/L)</b>                    | Immiscible   | <b>pH as a solution</b>                        | Not Available  |
| <b>Vapour density (Air = 1)</b>                     | >1   | <b>VOC g/L</b>                                 | Not Available  |

Continued...

**SECTION 10 STABILITY AND REACTIVITY**

|   |  |
|---|--|
| <b>Reactivity</b>                         | See section 7  |
| <b>Chemical stability</b>                 | <ul style="list-style-type: none"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul> |
| <b>Possibility of hazardous reactions</b> | See section 7  |
| <b>Conditions to avoid</b>                | See section 7  |
| <b>Incompatible materials</b>             | See section 7  |
| <b>Hazardous decomposition products</b>   | See section 5  |

**SECTION 11 TOXICOLOGICAL INFORMATION****Information on toxicological effects**

|                     |   |
|---------------------|---|
| <b>Inhaled</b>      | <p>Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.</p> <p>If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures.</p> <p>Inhalation of dusts, generated by the material, during the course of normal handling, may be harmful.</p> <p>The inhalation of small particles of metal oxide results in sudden thirst, a sweet, metallic foul taste, throat irritation, cough, dry mucous membranes, tiredness and general unwellness.</p> |
| <b>Ingestion</b>    | <p>Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.</p> <p>Not normally a hazard due to the physical form of product. The material is a physical irritant to the gastro-intestinal tract</p>   |
| <b>Skin Contact</b> | <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> <p>The material may cause moderate inflammation of the skin either following direct contact or after a delay of some time.</p> <p>Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.</p>   |
| <b>Eye</b>          | <p>There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain.</p> <p>Eye contact with arsine gas may result in aversion to light or clouding of the cornea.</p>  |
| <b>Chronic</b>      | <p>Long-term exposure to respiratory irritants may result in disease of the airways involving difficult breathing and related systemic problems.</p> <p>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>Glycidyl ethers can cause genetic damage and cancer.</p> <p>Phosphine is a very toxic gas.</p>   |

|   |  |                                |
|---|--|--------------------------------|
| <b>Permatex Steel Weld</b>                    | <b>TOXICITY</b>                                  | <b>IRRITATION</b>              |
|   | Not Available                                    | Not Available                  |
| <b>talc</b>                                   | <b>TOXICITY</b>                                  | <b>IRRITATION</b>              |
|   | Not Available                                    | Skin (human): 0.3 mg/3d-I mild |
| <b>bisphenol A/<br/>epichlorohydrin resin</b> | <b>TOXICITY</b>                                  | <b>IRRITATION</b>              |
|   | dermal (rat) LD50: >800 mg/kg <sup>[1]</sup>     | Eye (rabbit): 100 mg - mild    |
|   | Oral (rat) LD50: 13447 mg/kg <sup>[1]</sup>      | Nil reported                   |
| <b>glass, oxide</b>                           | <b>TOXICITY</b>                                  | <b>IRRITATION</b>              |
|   | Not Available                                    | Not Available                  |
| <b>ferrosilicon</b>                           | <b>TOXICITY</b>                                  | <b>IRRITATION</b>              |
|   | Dermal (rabbit) LD50: >5000 mg/kg <sup>[1]</sup> | Not Available                  |

## Permatex Steel Weld

|                             |  |               |
|-----------------------------|--|---------------|
| nepheline syenite           | TOXICITY   | IRRITATION    |
|                             | Not Available  | Not Available |
| silica crystalline - quartz | TOXICITY   | IRRITATION    |
|                             | Not Available  | Nil reported  |
| <b>Legend:</b>              | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's msds. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances |               |

|  |  |
|--|--|
| TALC                                     | Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. |
| BISPHENOL A/<br>EPICHLOROHYDRIN<br>RESIN | The following information refers to contact allergens as a group and may not be specific to this product. Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions.<br>for RTECS No: SL 6475000: (liquid grade) Equivocal tumourigen by RTECS criteria Somnolence, dyspnea, peritonitis   |
| GLASS, OXIDE                             | A similar spherical glass powder was nontoxic to rats at 5,000 mg/kg. All animals survived, gained weight and appeared active and healthy. There were no signs of gross toxicity, adverse pharmacologic effects or abnormal behavior. There are no known reports of subchronic toxicity of nonfibrous glass. There are no known reports of carcinogenicity of nonfibrous glass. When tested for primary irritation potential, a similar material caused minimal irritation to eyes and was non-irritating to skin. Dust in excess of recommended exposure limits may result in irritation to the respiratory tract   |
| FERROSILICON                             | data for decomposition products only   |
| SILICA CRYSTALLINE - QUARTZ              | <b>WARNING:</b> For inhalation exposure <u>ONLY</u> : This substance has been classified by the IARC as Group 1: <b>CARCINOGENIC TO HUMANS</b><br><br>The International Agency for Research on Cancer (IARC) has classified occupational exposures to <b>respirable</b> (<5 um) crystalline silica as being carcinogenic to humans. This classification is based on what IARC considered sufficient evidence from epidemiological studies of humans for the carcinogenicity of inhaled silica in the forms of quartz and cristobalite. Crystalline silica is also known to cause silicosis, a non-cancerous lung disease. Intermittent exposure produces; focal fibrosis, (pneumoconiosis), cough, dyspnoea, liver tumours.  |
| GLASS, OXIDE,<br>NEPHELINE SYENITE       | No significant acute toxicological data identified in literature search.   |

|                                   |   |                          |   |
|-----------------------------------|---|--------------------------|---|
| Acute Toxicity                    | ✓ | Carcinogenicity          | ⊖ |
| Skin Irritation/Corrosion         | ✓ | Reproductivity           | ⊖ |
| Serious Eye Damage/Irritation     | ✓ | STOT - Single Exposure   | ✓ |
| Respiratory or Skin sensitisation | ✓ | STOT - Repeated Exposure | ⊖ |
| Mutagenicity                      | ⊖ | Aspiration Hazard        | ⊖ |

**Legend:** ✓ – Data required to make classification available  
 ✗ – Data available but does not fill the criteria for classification  
 ⊖ – Data Not Available to make classification

## CMR STATUS

Not Applicable

## SECTION 12 ECOLOGICAL INFORMATION

## Toxicity

**DO NOT** discharge into sewer or waterways.

Continued...

**Persistence and degradability**

| Ingredient | Persistence: Water/Soil               | Persistence: Air                      |
|------------|---------------------------------------|---------------------------------------|
|            | No Data available for all ingredients | No Data available for all ingredients |

**Bioaccumulative potential**

| Ingredient | Bioaccumulation                       |
|------------|---------------------------------------|
|            | No Data available for all ingredients |

**Mobility in soil**

| Ingredient | Mobility                              |
|------------|---------------------------------------|
|            | No Data available for all ingredients |

**SECTION 13 DISPOSAL CONSIDERATIONS****Waste treatment methods**

|                                     |   |
|-------------------------------------|---|
| <b>Product / Packaging disposal</b> | <ul style="list-style-type: none"> <li>▶ Containers may still present a chemical hazard/ danger when empty.</li> <li>▶ Return to supplier for reuse/ recycling if possible.</li> </ul> Otherwise: <ul style="list-style-type: none"> <li>▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.</li> <li>▶ Where possible retain label warnings and MSDS and observe all notices pertaining to the product.</li> </ul> |
|-------------------------------------|---|

**SECTION 14 TRANSPORT INFORMATION****Labels Required**

|                         |                |
|-------------------------|----------------|
| <b>Marine Pollutant</b> | NO             |
| <b>HAZCHEM</b>          | Not Applicable |

**Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**SECTION 15 REGULATORY INFORMATION****Safety, health and environmental regulations / legislation specific for the substance or mixture**

|  |  |
|--|--|
| <b>talc(14807-96-6) is found on the following regulatory lists</b>                               | "Australia Exposure Standards", "Australia Inventory of Chemical Substances (AICS)", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs", "Australia Hazardous Substances Information System - Consolidated Lists" |
| <b>bisphenol A/ epichlorohydrin resin(25068-38-6) is found on the following regulatory lists</b> | "Australia Inventory of Chemical Substances (AICS)", "Australia Hazardous Substances Information System - Consolidated Lists"  |
| <b>glass, oxide(65997-17-3) is found on the following regulatory lists</b>                       | "Australia Inventory of Chemical Substances (AICS)", "Australia Hazardous Substances Information System - Consolidated Lists"  |
| <b>ferrosilicon(8049-17-0) is found on the following regulatory lists</b>                        | "Australia Exposure Standards", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs"  |
| <b>nepheline syenite(37244-96-5) is found on the following regulatory lists</b>                  | "Not Applicable"   |

**silica crystalline - quartz(14808-60-7) is found on the following regulatory lists**

"Australia Exposure Standards", "Australia Inventory of Chemical Substances (AICS)", "International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs", "Australia Hazardous Substances Information System - Consolidated Lists"

| Chemical Inventory            | Status   |
|-------------------------------|--|
| Australia - AICS              | N (nepheline syenite; ferrosilicon)  |
| Canada - DSL                  | Y  |
| China - IECSC                 | N (ferrosilicon)   |
| Europe - EINEC / ELINCS / NLP | N (nepheline syenite; ferrosilicon)  |
| Japan - ENCS                  | N (nepheline syenite; ferrosilicon; glass, oxide)  |
| Korea - KECI                  | N (nepheline syenite; ferrosilicon)  |
| New Zealand - NZIoC           | Y  |
| Phillipes - PICCS             | N (nepheline syenite)  |
| USA - TSCA                    | N (nepheline syenite; ferrosilicon)  |
| <b>Legend:</b>                | <i>Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)</i> |

## SECTION 16 OTHER INFORMATION

### Other information

#### Ingredients with multiple cas numbers

| Name                        | CAS No  |
|-----------------------------|---|
| silica crystalline - quartz | 122304-48-7, 122304-49-8, 12425-26-2, 1317-79-9, 14808-60-7, 70594-95-5, 87347-84-0 |

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

A list of reference resources used to assist the committee may be found at:

[www.chemwatch.net/references](http://www.chemwatch.net/references)

The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

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