

# Permatex Copper Spray-A-Gasket Hi-Temp Sealant Aerosol

ITW AAMTech

Chemwatch Hazard Alert Code: 4

Chemwatch: 5063-52

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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 Copper Spray-A-Gasket Hi-Temp Sealant Aerosol
<b>Synonyms</b>	PX80697
<b>Proper shipping name</b>	AEROSOLS
<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>	Application is by spray atomisation from a hand held aerosol pack The use of a quantity of material in an unventilated or confined space may result in increased exposure and an irritating atmosphere developing. Before starting consider control of exposure by mechanical ventilation. Metallised gasket cement.
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### Details of the manufacturer/importer

<b>Registered company name</b>	ITW AAMTech	ITW AAMTech
<b>Address</b>	100 Hassall Street 2164 NSW Australia	Unit 2/38 Trugood Drive 2013 New Zealand
<b>Telephone</b>	1800 177 989	+64 9272 1940
<b>Fax</b>	1800 308 556	+64 9272 1949
<b>Website</b>	www.aamtech.com.au	www.aamtech.co.nz
<b>Email</b>	info@aamtech.com.au	info@aamtech.co.nz

### Emergency telephone number

<b>Association / Organisation</b>	Not Available	Not Available
<b>Emergency telephone numbers</b>	1800 039 008	+800 2436 2255
<b>Other emergency telephone numbers</b>	+61 3 9573 3112	Not Available

## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

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

<b>Poisons Schedule</b>	S5	
<b>Risk Phrases [1]</b>	<b>R36/38</b>	Irritating to eyes and skin.
	<b>R44</b>	Risk of explosion if heated under confinement.
	<b>R67</b>	Vapours may cause drowsiness and dizziness.
	<b>R66</b>	Repeated exposure may cause skin dryness and cracking.
	<b>R40(3)</b>	Limited evidence of a carcinogenic effect.
	<b>R22</b>	Harmful if swallowed.

Continued...

Permatex Copper Spray-A-Gasket Hi-Temp Sealant Aerosol

	<b>R12</b>	Extremely flammable.
<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 [1]</b>	Flammable Aerosol Category 1, Acute Toxicity (Oral) Category 4, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2, Carcinogen Category 2, STOT - SE (Narcosis) 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

<b>GHS label elements</b>	
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<b>SIGNAL WORD</b>	<b>DANGER</b>
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Hazard statement(s)

<b>H222</b>	Extremely flammable aerosol
<b>H302</b>	Harmful if swallowed
<b>H315</b>	Causes skin irritation
<b>H319</b>	Causes serious eye irritation
<b>H351</b>	Suspected of causing cancer
<b>H336</b>	May cause drowsiness or dizziness
<b>AUH044</b>	Risk of explosion if heated under confinement
<b>AUH066</b>	Repeated exposure may cause skin dryness and cracking

Precautionary statement(s) Prevention

<b>P201</b>	Obtain special instructions before use.
<b>P210</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
<b>P211</b>	Do not spray on an open flame or other ignition source.
<b>P251</b>	Do not pierce or burn, even after use.

Precautionary statement(s) Response

<b>P308+P313</b>	IF exposed or concerned: Get medical advice/attention.
<b>P362</b>	Take off contaminated clothing.
<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>P337+P313</b>	If eye irritation persists: Get medical advice/attention.

Precautionary statement(s) Storage

<b>P405</b>	Store locked up.
<b>P410+P412</b>	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
<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
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Label elements



Relevant risk statements are found in section 2

<b>Indication(s) of danger</b>	F+, Xn
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Permatex Copper Spray-A-Gasket Hi-Temp Sealant Aerosol

**SAFETY ADVICE**

<b>S02</b>	Keep out of reach of children.
<b>S09</b>	Keep container in a well ventilated place.
<b>S13</b>	Keep away from food, drink and animal feeding stuffs.
<b>S15</b>	Keep away from heat.
<b>S16</b>	Keep away from sources of ignition. No smoking.
<b>S23</b>	Do not breathe gas/fumes/vapour/spray.
<b>S26</b>	In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
<b>S29</b>	Do not empty into drains.
<b>S33</b>	Take precautionary measures against static discharges.
<b>S35</b>	This material and its container must be disposed of in a safe way.
<b>S36</b>	Wear suitable protective clothing.
<b>S37</b>	Wear suitable gloves.
<b>S38</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>S38</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<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>S41</b>	In case of fire and/or explosion, DO NOT BREATHE FUMES.
<b>S43</b>	In case of fire use...
<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>S52</b>	Not recommended for interior use on large surface areas.
<b>S53</b>	Avoid exposure - obtain special instructions before use.
<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**

	Inhalation and/or skin contact may produce health damage*.
	Cumulative effects may result following exposure*.
	May produce discomfort of the respiratory system*.
	May affect fertility*.

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**

**Substances**

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
67-64-1	15-40	<u>acetone</u>
141-78-6	<5	<u>ethyl acetate</u>
75-09-2	10-30	<u>methylene chloride</u>
64742-89-8.	<5	<u>solvent naphtha petroleum, light aliphatic</u>
7440-50-8	<5	<u>copper</u>
Not Available	NotSpec.	propellants as
74-98-6	10-30	<u>propane</u>
106-97-8.	15-40	<u>butane</u>

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**SECTION 4 FIRST AID MEASURES**

**Description of first aid measures**

Continued...

## Permatex Copper Spray-A-Gasket Hi-Temp Sealant Aerosol

<b>Eye Contact</b>	<p>If aerosols come in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes with fresh 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>▶ 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 solids or aerosol mists are deposited upon the skin:</p> <ul style="list-style-type: none"> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Remove any adhering solids with industrial skin cleansing cream.</li> <li>▶ <b>DO NOT use solvents.</b></li> <li>▶ Seek medical attention in the event of irritation.</li> </ul>
<b>Inhalation</b>	<p>If aerosols, fumes or combustion products are inhaled:</p> <ul style="list-style-type: none"> <li>▶ Remove to fresh air.</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>▶ If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, 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.</li> </ul>
<b>Ingestion</b>	<p>Not considered a normal route of entry. If poisoning occurs, contact a doctor or Poisons Information Centre.</p> <ul style="list-style-type: none"> <li>▶ Avoid giving milk or oils.</li> <li>▶ Avoid giving alcohol.</li> <li>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> </ul>

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

for intoxication due to Freons/ Halons;

A: Emergency and Supportive Measures

- ▶ Maintain an open airway and assist ventilation if necessary
- ▶ Treat coma and arrhythmias if they occur. Avoid (adrenaline) epinephrine or other sympathomimetic amines that may precipitate ventricular arrhythmias. Tachyarrhythmias caused by increased myocardial sensitisation may be treated with propranolol, 1-2 mg IV or esmolol 25-100 microgm/kg/min IV.
- ▶ Monitor the ECG for 4-6 hours

B: Specific drugs and antidotes:

- ▶ There is no specific antidote

C: Decontamination

- ▶ Inhalation; remove victim from exposure, and give supplemental oxygen if available.
- ▶ Ingestion; (a) Prehospital: Administer activated charcoal, if available. **DO NOT** induce vomiting because of rapid absorption and the risk of abrupt onset CNS depression. (b) Hospital: Administer activated charcoal, although the efficacy of charcoal is unknown. Perform gastric lavage only if the ingestion was very large and recent (less than 30 minutes)

D: Enhanced elimination:

- ▶ There is no documented efficacy for diuresis, haemodialysis, haemoperfusion, or repeat-dose charcoal.

*POISONING and DRUG OVERDOSE, Californian Poison Control System Ed. Kent R Olson; 3rd Edition*

- ▶ Do not administer sympathomimetic drugs unless absolutely necessary as material may increase myocardial irritability.
- ▶ No specific antidote.
- ▶ Because rapid absorption may occur through lungs if aspirated and cause systematic effects, the decision of whether to induce vomiting or not should be made by an attending physician.
- ▶ If lavage is performed, suggest endotracheal and/or esophageal control.
- ▶ Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach.
- ▶ Treatment based on judgment of the physician in response to reactions of the patient

Treat symptomatically.

for simple esters:

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BASIC TREATMENT  
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- ▶ Establish a patent airway with suction where necessary.
  - ▶ Watch for signs of respiratory insufficiency and assist ventilation as necessary.
  - ▶ Administer oxygen by non-rebreather mask at 10 to 15 l/min.
  - ▶ Monitor and treat, where necessary, for pulmonary oedema .
  - ▶ Monitor and treat, where necessary, for shock.
  - ▶ **DO NOT use emetics.** Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.
  - ▶ Give activated charcoal.
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## ADVANCED TREATMENT

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- ▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

## EMERGENCY DEPARTMENT

- ▶ Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime. Other useful analyses include anion and osmolar gaps, arterial blood gases (ABGs), chest radiographs and electrocardiograph.
- ▶ Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
- ▶ Consult a toxicologist as necessary.

BRONSTEIN, A.C. and CURRANCE, P.L. *EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994*

For acute or short term repeated exposures to acetone:

- ▶ Symptoms of acetone exposure approximate ethanol intoxication.
- ▶ About 20% is expired by the lungs and the rest is metabolised. Alveolar air half-life is about 4 hours following two hour inhalation at levels near the Exposure Standard; in overdose, saturable metabolism and limited clearance, prolong the elimination half-life to 25-30 hours.
- ▶ There are no known antidotes and treatment should involve the usual methods of decontamination followed by supportive care.

[Ellenhorn and Barceloux: Medical Toxicology]

Management:

Measurement of serum and urine acetone concentrations may be useful to monitor the severity of ingestion or inhalation.

Inhalation Management:

- ▶ Maintain a clear airway, give humidified oxygen and ventilate if necessary.
- ▶ If respiratory irritation occurs, assess respiratory function and, if necessary, perform chest X-rays to check for chemical pneumonitis.
- ▶ Consider the use of steroids to reduce the inflammatory response.
- ▶ Treat pulmonary oedema with PEEP or CPAP ventilation.

Dermal Management:

- ▶ Remove any remaining contaminated clothing, place in double sealed, clear bags, label and store in secure area away from patients and staff.
- ▶ Irrigate with copious amounts of water.
- ▶ An emollient may be required.

Eye Management:

- ▶ Irrigate thoroughly with running water or saline for 15 minutes.
- ▶ Stain with fluorescein and refer to an ophthalmologist if there is any uptake of the stain.

Oral Management:

- ▶ No **GASTRIC LAVAGE OR EMETIC**
- ▶ Encourage oral fluids.

Systemic Management:

- ▶ Monitor blood glucose and arterial pH.
- ▶ Ventilate if respiratory depression occurs.
- ▶ If patient unconscious, monitor renal function.
- ▶ Symptomatic and supportive care.

The Chemical Incident Management Handbook:

Guy's and St. Thomas' Hospital Trust, 2000

## BIOLOGICAL EXPOSURE INDEX

These represent the determinants observed in specimens collected from a healthy worker exposed at the Exposure Standard (ES or TLV):

Determinant	Sampling Time	Index	Comments
Acetone in urine	End of shift	50 mg/L	NS

NS: Non-specific determinant; also observed after exposure to other material

**DO NOT** administer sympathomimetic drugs as they may cause ventricular arrhythmias.

For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:

- ▶ Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
- ▶ Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO<sub>2</sub> 50 mm Hg) should be intubated.
- ▶ Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- ▶ A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- ▶ Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
- ▶ Lavage is indicated in patients who require decontamination; ensure use of cuffed endotracheal tube in adult patients. [Ellenhorn and Barceloux: Medical Toxicology]

## SECTION 5 FIREFIGHTING MEASURES

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**Extinguishing media**

	<p><b>SMALL FIRE:</b></p> <ul style="list-style-type: none"> <li>▶ Water spray, dry chemical or CO2</li> </ul> <p><b>LARGE FIRE:</b></p> <ul style="list-style-type: none"> <li>▶ Water spray or fog.</li> </ul>
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**Special hazards arising from the substrate or mixture**

<b>Fire Incompatibility</b>	<ul style="list-style-type: none"> <li>▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result</li> </ul>
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**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>▶ May be violently or explosively reactive.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> </ul>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Liquid and vapour are highly flammable.</li> <li>▶ Severe fire hazard when exposed to heat or flame.</li> <li>▶ Vapour forms an explosive mixture with air.</li> <li>▶ Severe explosion hazard, in the form of vapour, when exposed to flame or spark.</li> </ul>

**SECTION 6 ACCIDENTAL RELEASE MEASURES**

**Personal precautions, protective equipment and emergency procedures**

<b>Minor Spills</b>	<ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Wear protective clothing, impervious gloves and safety glasses.</li> <li>▶ Shut off all possible sources of ignition and increase ventilation.</li> </ul>
<b>Major Spills</b>	<ul style="list-style-type: none"> <li>▶ Remove leaking cylinders to a safe place if possible.</li> <li>▶ Release pressure under safe, controlled conditions by opening the valve.</li> <li>▶ <b>DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve.</b></li> <li>▶ Clear area of personnel and move upwind.</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>	<ul style="list-style-type: none"> <li>▶ Containers, even those that have been emptied, may contain explosive vapours.</li> <li>▶ Do NOT cut, drill, grind, weld or perform similar operations on or near containers.</li> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> </ul>
<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can</li> <li>▶ Store in original containers in approved flammable liquid storage area.</li> <li>▶ <b>DO NOT store in pits, depressions, basements or areas where vapours may be trapped.</b></li> <li>▶ No smoking, naked lights, heat or ignition sources.</li> </ul>

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

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ Aerosol dispenser.</li> <li>▶ Check that containers are clearly labelled.</li> </ul>
<b>Storage incompatibility</b>	<ul style="list-style-type: none"> <li>▶ Avoid magnesium, aluminium and their alloys, brass and steel.</li> <li>▶ Avoid reaction with oxidising agents</li> </ul>

**PACKAGE MATERIAL INCOMPATIBILITIES**

Not Available

**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Control parameters**

**OCCUPATIONAL EXPOSURE LIMITS (OEL)**

**INGREDIENT DATA**

**Permatex Copper Spray-A-Gasket Hi-Temp Sealant Aerosol**

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	acetone	Acetone	1185 mg/m3 / 500 ppm	2375 mg/m3 / 1000 ppm	Not Available	Not Available
Australia Exposure Standards	ethyl acetate	Ethyl acetate	720 mg/m3 / 200 ppm	1440 mg/m3 / 400 ppm	Not Available	Not Available
Australia Exposure Standards	methylene chloride	Methylene chloride	174 mg/m3 / 50 ppm	Not Available	Not Available	Sk
Australia Exposure Standards	copper	Copper (fume) / Copper, dusts & mists (as Cu)	0.2 mg/m3 / 1 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	propane	Propane	Not Available	Not Available	Not Available	Not Available
Australia Exposure Standards	butane	Butane	1900 mg/m3 / 800 ppm	Not Available	Not Available	Not Available

**EMERGENCY LIMITS**

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
acetone	Acetone	Not Available	Not Available	Not Available
ethyl acetate	Ethyl acetate	400 ppm	400 ppm	10000 ppm
methylene chloride	Methylene chloride; (Dichloromethane)	Not Available	Not Available	Not Available
solvent naphtha petroleum, light aliphatic	Rubber solvent; (Naphtha (petroleum) light aliphatic)	264 ppm	1700 ppm	10000 ppm
copper	Copper	1 mg/m3	1 mg/m3	45 mg/m3
propane	Propane	Not Available	Not Available	Not Available
butane	Butane	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
acetone	20,000 ppm	2,500 [LEL] ppm
ethyl acetate	10,000 ppm	2,000 [LEL] ppm
methylene chloride	10,000 ppm	2,000 ppm
solvent naphtha petroleum, light aliphatic	Not Available	Not Available
copper	N.E. mg/m3 / N.E. ppm	100 mg/m3
propellants as	Not Available	Not Available
propane	20,000 [LEL] ppm	2,100 [LEL] ppm
butane	Not Available	Not Available

**Exposure controls**

<b>Appropriate engineering controls</b>	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>
<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>	<ul style="list-style-type: none"> <li>▶ No special equipment needed when handling small quantities.</li> <li>▶ <b>OTHERWISE:</b></li> <li>▶ For potentially moderate exposures:</li> <li>▶ Wear general protective gloves, eg. light weight rubber gloves.</li> <li>▶ For potentially heavy exposures:</li> <li>▶ Wear chemical protective gloves, eg. PVC. and safety footwear.</li> </ul>

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<b>Body protection</b>	See Other protection below
<b>Other protection</b>	No special equipment needed when handling small quantities. <b>OTHERWISE:</b> <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ Skin cleansing cream.</li> <li>▶ Eyewash unit.</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:  
Permatex Copper Spray-A-Gasket Hi-Temp Sealant Aerosol

Material	CPI
##ethyl	acetate
BUTYL	C
BUTYL/NEOPRENE	C
CPE	C
##methylene	chloride
HYPALON	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
NITRILE+PVC	C
PE/EVAL/PE	C
PVA	C
PVC	C
PVDC/PE/PVDC	C
SARANEX-23	C
SARANEX-23 2-PLY	C
TEFLON	C
VITON	C
VITON/BUTYL	C
VITON/CHLOROBUTYL	C
VITON/NEOPRENE	C

\* 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 GAX-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 5 x ES	Air-line*	GAX-2 P3	GAX-PAPR-2 P3 ^
up to 10 x ES	-	GAX-3 P3	-
10+ x ES	-	Air-line**	-

\* - Continuous Flow; \*\* - Continuous-flow or positive pressure demand

^ - 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(SO2), G = Agricultural chemicals, K = Ammonia(NH3), 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>	22aer Copper coloured highly flammable liquid with a solvent odour; not miscible with water.		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	0.93

Continued...

## Permatex Copper Spray-A-Gasket Hi-Temp Sealant Aerosol

<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 Applicable	<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>	>38	<b>Molecular weight (g/mol)</b>	Not Applicable
<b>Flash point (°C)</b>	-81 (propellant)	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	>1 BuAc=1	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	HIGHLY FLAMMABLE.	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	Not Available	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	Not Available	<b>Volatile Component (%vol)</b>	45% (VOC - by wt)
<b>Vapour pressure (kPa)</b>	UNDER PRESSURE	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Immiscible	<b>pH as a solution (1%)</b>	Not Applicable
<b>Vapour density (Air = 1)</b>	>1	<b>VOC g/L</b>	Not Available

## SECTION 10 STABILITY AND REACTIVITY

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	<ul style="list-style-type: none"> <li>▶ Elevated temperatures.</li> <li>▶ Presence of open flame.</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>Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.</p> <p>There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</p> <p>Inhalation hazard is increased at higher temperatures.</p>
<b>Ingestion</b>	<p>Not normally a hazard due to physical form of product.</p> <p>Considered an unlikely route of entry in commercial/industrial environments</p> <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>Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)</p> <p>The main effects of simple esters are irritation, stupor and insensibility.</p>
<b>Skin Contact</b>	<p>Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.</p> <p>The material may cause mild but significant inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.</p> <p>Spray mist may produce discomfort</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.</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>

Continued...

## Permatex Copper Spray-A-Gasket Hi-Temp Sealant Aerosol

	The liquid produces a high level of eye discomfort and is capable of causing pain and severe conjunctivitis. Corneal injury may develop, with possible permanent impairment of vision, if not promptly and adequately treated.	
<b>Chronic</b>	<p>Principal route of occupational exposure to the gas is by inhalation.</p> <p>There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.</p> <p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>There is some evidence from animal testing that exposure to this material may result in reduced fertility.</p>	
<b>Permatex Copper Spray-A-Gasket Hi-Temp Sealant Aerosol</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>acetone</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 20000 mg/kg <sup>[2]</sup>	Eye (human): 500 ppm - irritant
	Inhalation (rat) LC50: 50.1 mg/L/8 hr <sup>[2]</sup>	Eye (rabbit): 20mg/24hr - moderate
	Oral (rat) LD50: 5800 mg/kgE <sup>[2]</sup>	Eye (rabbit): 3.95 mg - SEVERE
		Skin (rabbit): 500 mg/24hr - mild
		Skin (rabbit):395mg (open) - mild
<b>ethyl acetate</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >18000 mg/kg <sup>[2]</sup>	Eye (human): 400 ppm
	Inhalation (mouse) LC50: >18 mg/l4 h <sup>[1]</sup>	
	Inhalation (mouse) LC50: 33.5 mg/l2 h <sup>[1]</sup>	
	Inhalation (mouse) LC50: 45 mg/L/2H <sup>[2]</sup>	
	Inhalation (rat) LC50: >6000 ppm/6H <sup>[2]</sup>	
	Inhalation (rat) LC50: 1600 ppm/8h <sup>[2]</sup>	
	Inhalation (rat) LC50: 200 mg/l1 h <sup>[1]</sup>	
Oral (rat) LD50: 10170 mg/kg <sup>[1]</sup>		
<b>methylene chloride</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Eye(rabbit): 162 mg - moderate
	Inhalation (rat) LC50: 76 mg/L/4H <sup>[2]</sup>	Eye(rabbit): 500 mg/24hr - mild
	Oral (rat) LD50: 985 mg/kg <sup>[2]</sup>	Skin (rabbit): 100mg/24hr-moderate
		Skin (rabbit): 810 mg/24hr-SEVERE
<b>solvent naphtha petroleum, light aliphatic</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >1900 mg/kg <sup>[1]</sup>	Not Available
	Oral (rat) LD50: >4500 mg/kg <sup>[1]</sup>	
<b>copper</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >2000 mg/kg <sup>[1]</sup>	Nil Reported
	Inhalation (rat) LC50: 0.733 mg/l4 h <sup>[1]</sup>	
	Inhalation (rat) LC50: 1.03 mg/l4 h <sup>[1]</sup>	
	Inhalation (rat) LC50: 1.67 mg/l4 h <sup>[1]</sup>	
Oral (rat) LD50: 300500 mg/kg <sup>[1]</sup>		
<b>propane</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Inhalation (mouse) LC50: >15.6<17.9 mm/l2 h mm/l2="> <sup>[1]</sup>	Not Available
	Inhalation (mouse) LC50: 410000 ppm2 h <sup>[1]</sup>	
	Inhalation (rat) LC50: >800000 ppm15 min <sup>[1]</sup>	
	Inhalation (rat) LC50: 1354.944 mg/L15 min <sup>[1]</sup>	
	Inhalation (rat) LC50: 1355 mg/l15 min <sup>[1]</sup>	
	Inhalation (rat) LC50: 1442.738 mg/L15 min <sup>[1]</sup>	

## Permatex Copper Spray-A-Gasket Hi-Temp Sealant Aerosol

	Inhalation (rat) LC50: 1443 mg/l15 min <sup>[1]</sup>	
	Inhalation (rat) LC50: 570000 ppm15 min <sup>[1]</sup>	
<b>butane</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Inhalation (rat) LC50: 658 mg/L/4H <sup>[2]</sup>	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	
<b>ACETONE</b>	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. for acetone: The acute toxicity of acetone is low. Acetone is not a skin irritant or sensitiser but is a defatting agent to the skin. Acetone is an eye irritant.	
<b>METHYLENE CHLORIDE</b>	The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration. Inhalation (human) TCLo: 500 ppm/ 1 y - I Eye(rabbit): 10 mg - mild	
<b>SOLVENT NAPHTHA PETROLEUM, LIGHT ALIPHATIC</b>	<b>for petroleum:</b> This product contains benzene which is known to cause acute myeloid leukaemia and n-hexane which has been shown to metabolize to compounds which are neuropathic. This product contains toluene. There are indications from animal studies that prolonged exposure to high concentrations of toluene may lead to hearing loss. This product contains ethyl benzene and naphthalene from which there is evidence of tumours in rodents <b>Carcinogenicity:</b> Inhalation exposure to mice causes liver tumours, which are not considered relevant to humans.	
<b>COPPER</b>	for copper and its compounds (typically copper chloride): <b>Acute toxicity:</b> There are no reliable acute oral toxicity results available. In an acute dermal toxicity study (OECD TG 402), one group of 5 male rats and 5 groups of 5 female rats received doses of 1000, 1500 and 2000 mg/kg bw via dermal application for 24 hours. The LD50 values of copper monochloride were 2,000 mg/kg bw or greater for male (no deaths observed) and 1,224 mg/kg bw for female. Four females died at both 1500 and 2000 mg/kg bw, and one at 1,000 mg/kg bw. WARNING: Inhalation of high concentrations of copper fume may cause "metal fume fever", an acute industrial disease of short duration. Symptoms are tiredness, influenza like respiratory tract irritation with fever.	
<b>PROPANE</b>	No significant acute toxicological data identified in literature search.	

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

**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

<b>REPROTOXIN</b>	methylene chloride	ILO Chemicals in the electronics industry that have toxic effects on reproduction
<b>CARCINOGEN</b>	methylene chloride	Australia Exposure Standards - Carcinogens 3
<b>SKIN</b>	methylene chloride	Australia Exposure Standards - Skin Sk

## SECTION 12 ECOLOGICAL INFORMATION

Permatex Copper Spray-A-Gasket Hi-Temp Sealant Aerosol

**Toxicity**

For Hydrocarbons: log Kow 1. BCF~10.  
For Aromatics: log Kow 2-3.  
BCF 20-200.

**Persistence and degradability**

Ingredient	Persistence: Water/Soil	Persistence: Air
acetone	LOW (Half-life = 14 days)	MEDIUM (Half-life = 116.25 days)
ethyl acetate	LOW (Half-life = 14 days)	LOW (Half-life = 14.71 days)
methylene chloride	LOW (Half-life = 56 days)	HIGH (Half-life = 191 days)
propane	LOW	LOW
butane	LOW	LOW

**Bioaccumulative potential**

Ingredient	Bioaccumulation
acetone	LOW (BCF = 69)
ethyl acetate	HIGH (BCF = 3300)
methylene chloride	LOW (BCF = 40)
propane	LOW (LogKOW = 2.36)
butane	LOW (LogKOW = 2.89)

**Mobility in soil**

Ingredient	Mobility
acetone	HIGH (KOC = 1.981)
ethyl acetate	LOW (KOC = 6.131)
methylene chloride	LOW (KOC = 23.74)
propane	LOW (KOC = 23.74)
butane	LOW (KOC = 43.79)

**SECTION 13 DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>▶ Consult State Land Waste Management Authority for disposal.</li> <li>▶ Discharge contents of damaged aerosol cans at an approved site.</li> <li>▶ Allow small quantities to evaporate.</li> <li>▶ <b>DO NOT incinerate or puncture aerosol cans.</b></li> </ul>
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**SECTION 14 TRANSPORT INFORMATION**

**Labels Required**

	
<b>Marine Pollutant</b>	NO
<b>HAZCHEM</b>	2YE

**Land transport (ADG)**

<b>UN number</b>	1950				
<b>Packing group</b>	Not Applicable				
<b>UN proper shipping name</b>	AEROSOLS				
<b>Environmental hazard</b>	No relevant data				
<b>Transport hazard class(es)</b>	<table style="border: none;"> <tr> <td style="border: none;">Class</td> <td style="border: none;">2.1</td> </tr> <tr> <td style="border: none;">Subrisk</td> <td style="border: none;">Not Applicable</td> </tr> </table>	Class	2.1	Subrisk	Not Applicable
Class	2.1				
Subrisk	Not Applicable				

## Permatex Copper Spray-A-Gasket Hi-Temp Sealant Aerosol

<b>Special precautions for user</b>	Special provisions	63 190 277 327 344
	Limited quantity	See SP 277

**Air transport (ICAO-IATA / DGR)**

<b>UN number</b>	1950	
<b>Packing group</b>	Not Applicable	
<b>UN proper shipping name</b>	Aerosols, flammable; Aerosols, flammable (engine starting fluid)	
<b>Environmental hazard</b>	No relevant data	
<b>Transport hazard class(es)</b>	ICAO/IATA Class	2.1
	ICAO / IATA Subrisk	Not Applicable
	ERG Code	10L
<b>Special precautions for user</b>	Special provisions	A145A167A802; A1A145A167A802
	Cargo Only Packing Instructions	203
	Cargo Only Maximum Qty / Pack	150 kg
	Passenger and Cargo Packing Instructions	203; Forbidden
	Passenger and Cargo Maximum Qty / Pack	75 kg; Forbidden
	Passenger and Cargo Limited Quantity Packing Instructions	Y203; Forbidden
	Passenger and Cargo Limited Maximum Qty / Pack	30 kg G; Forbidden

**Sea transport (IMDG-Code / GGVSee)**

<b>UN number</b>	1950	
<b>Packing group</b>	Not Applicable	
<b>UN proper shipping name</b>	AEROSOLS	
<b>Environmental hazard</b>	Not Applicable	
<b>Transport hazard class(es)</b>	IMDG Class	2.1
	IMDG Subrisk	Not Applicable
<b>Special precautions for user</b>	EMS Number	F-D , S-U
	Special provisions	63 190 277 327 344 959
	Limited Quantities	See SP277

**Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code**

Source	Ingredient	Pollution Category
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	ethyl acetate	Z
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	methylene chloride	Y

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

<b>acetone(67-64-1) is found on the following regulatory lists</b>	"Australia Exposure Standards", "Australia Inventory of Chemical Substances (AICS)", "Australia Hazardous Substances Information System - Consolidated Lists"
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## Permatex Copper Spray-A-Gasket Hi-Temp Sealant Aerosol

<b>ethyl acetate(141-78-6) is found on the following regulatory lists</b>	"Australia Exposure Standards", "Australia Inventory of Chemical Substances (AICS)", "Australia Hazardous Substances Information System - Consolidated Lists"
<b>methylene chloride(75-09-2) 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>solvent naphtha petroleum, light aliphatic(64742-89-8.) is found on the following regulatory lists</b>	"Australia Inventory of Chemical Substances (AICS)", "International Air Transport Association (IATA) Dangerous Goods Regulations - Prohibited List Passenger and Cargo Aircraft", "Australia Hazardous Substances Information System - Consolidated Lists"
<b>copper(7440-50-8) 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>propane(74-98-6) is found on the following regulatory lists</b>	"Australia Exposure Standards", "Australia Inventory of Chemical Substances (AICS)", "Australia Hazardous Substances Information System - Consolidated Lists"
<b>butane(106-97-8.) is found on the following regulatory lists</b>	"Australia Exposure Standards", "Australia Inventory of Chemical Substances (AICS)", "Australia Hazardous Substances Information System - Consolidated Lists"

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (copper; solvent naphtha petroleum, light aliphatic)
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
<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

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

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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