

# Proweld Pickling Gel

Callington Haven Pty Ltd

Chemwatch Hazard Alert Code: 4

Chemwatch: 02-0941

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Safety Data Sheet according to WHS and ADG requirements

L.GHS.AUS.EN

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

### Product Identifier

Product name	Proweld Pickling Gel
Synonyms	Not Available
Proper shipping name	CORROSIVE LIQUID, TOXIC, N.O.S. (contains nitric acid and hydrofluoric acid)
Other means of identification	Not Available

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

Relevant identified uses	Stainless steel weld scale remover.
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### Details of the supplier of the safety data sheet

Registered company name	Callington Haven Pty Ltd
Address	30 South Street Rydalmere NSW 2116 Australia
Telephone	+61 2 9898 2700
Fax	+61 2 9475 0449
Website	www.callingtonhaven.com
Email	customerservice@callington.com

### Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	1800 039 008 (24 hours), +61 3 9573 3112 (24 hours)
Other emergency telephone numbers	Not Available

## CHEMWATCH EMERGENCY RESPONSE

Primary Number	Alternative Number 1	Alternative Number 2
1800 039 008	1800 039 008	+612 9186 1132

Once connected and if the message is not in your preferred language then please dial 01



## SECTION 2 HAZARDS IDENTIFICATION

### Classification of the substance or mixture

Poisons Schedule	S7
Classification <sup>[1]</sup>	Metal Corrosion Category 1, Acute Toxicity (Oral) Category 2, Acute Toxicity (Dermal) Category 1, Acute Toxicity (Inhalation) Category 1, Skin Corrosion/Irritation Category 1A, Serious Eye Damage Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from EC Directive 1272/2008 - Annex VI

### Label elements

Continued...

<b>Hazard pictogram(s)</b>	 
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<b>SIGNAL WORD</b>	<b>DANGER</b>
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**Hazard statement(s)**

<b>H290</b>	May be corrosive to metals.
<b>H300</b>	Fatal if swallowed.
<b>H310</b>	Fatal in contact with skin.
<b>H330</b>	Fatal if inhaled.
<b>H314</b>	Causes severe skin burns and eye damage.

**Precautionary statement(s) Prevention**

<b>P260</b>	Do not breathe dust/fume/gas/mist/vapours/spray.
<b>P262</b>	Do not get in eyes, on skin, or on clothing.
<b>P270</b>	Do not eat, drink or smoke when using this product.
<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>P234</b>	Keep only in original container.
<b>P284</b>	Wear respiratory protection.

**Precautionary statement(s) Response**

<b>P301+P310</b>	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
<b>P301+P330+P331</b>	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
<b>P303+P361+P353</b>	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
<b>P304+P340</b>	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
<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>P363</b>	Wash contaminated clothing before reuse.
<b>P302+P350</b>	IF ON SKIN: Gently wash with plenty of soap and water.
<b>P390</b>	Absorb spillage to prevent material damage.

**Precautionary statement(s) Storage**

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

**Precautionary statement(s) Disposal**

<b>P501</b>	Dispose of contents/container in accordance with local regulations.
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**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS****Substances**

See section below for composition of Mixtures

**Mixtures**

CAS No	%[weight]	Name
7697-37-2	10-30	<u>nitric acid</u>
7664-39-3	<10	<u>hydrofluoric acid</u>
Not Available	10-30	performance additives
7732-18-5	30-60	<u>water</u>
		NOTE: Manufacturer has supplied full ingredient information to allow CHEMWATCH assessment.

## Proweld Pickling Gel

### SECTION 4 FIRST AID MEASURES

#### Description of first aid measures

<b>Eye Contact</b>	<p><b>DO NOT delay.</b></p> <p>If this product or its vapours come in contact with the eyes,</p> <ul style="list-style-type: none"> <li>▶ <b>DO NOT DELAY: Immediately irrigate continuously by holding the eyelids apart and washing with fresh running water.</b></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, eye clinic or eye specialist, ophthalmologist without delay.</li> </ul>
<b>Skin Contact</b>	<p><b>DO NOT delay.</b></p> <p>If there is evidence of severe skin irritation or skin burns:</p> <ul style="list-style-type: none"> <li>▶ Avoid further contact. Immediately remove contaminated clothing, including footwear.</li> <li>▶ Flush skin under running water for 15 minutes.</li> <li>▶ Avoiding contamination of the hands, massage calcium gluconate gel into affected areas, pay particular attention to creases in skin.</li> <li>▶ Contact the Poisons Information Centre.</li> <li>▶ Continue gel application for at least 15 minutes after burning sensation ceases.</li> <li>▶ If pain recurs, repeat application of calcium gluconate gel or apply every 20 minutes.</li> <li>▶ If no gel is available, continue washing for at least 15 minutes, using soap if available. If patient is conscious, give six calcium gluconate or calcium carbonate tablets in water by mouth.</li> <li>▶ Transport to hospital, or doctor, urgently.</li> </ul>
<b>Inhalation</b>	<p>For massive exposures:</p> <ul style="list-style-type: none"> <li>▶ If dusts, vapours, aerosols, fumes or combustion products are inhaled, remove from contaminated area.</li> <li>▶ Lay patient down.</li> <li>▶ 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>▶ If victim is conscious, give six calcium gluconate or calcium carbonate tablets in water by mouth.</li> <li>▶ Transport to hospital, or doctor, urgently.</li> </ul>
<b>Ingestion</b>	<p><b>DO NOT delay.</b></p> <p>amp;52b1</p> <p>Transport to hospital or doctor and seek immediate medical attention.</p> <p><b>DO NOT INDUCE vomiting.</b></p> <p>If patient is conscious, give six calcium gluconate or calcium carbonate tablets dissolved in water, by mouth.</p>

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

Following acute or short term repeated exposure to hydrofluoric acid:

- ▶ Subcutaneous injections of Calcium Gluconate may be necessary around the burnt area. Continued application of Calcium Gluconate Gel or subcutaneous Calcium Gluconate should then continue for 3-4 days at a frequency of 4-6 times per day. If a "burning" sensation recurs, apply more frequently.
- ▶ Systemic effects of extensive hydrofluoric acid burns include renal damage, hypocalcaemia and consequent cardiac arrhythmias. Monitor haematological, respiratory, renal, cardiac and electrolyte status at least daily. Tests should include FBE, blood gases, chest X-ray, creatinine and electrolytes, urine output, Ca ions, Mg ions and phosphate ions. Continuous ECG monitoring may be required.
- ▶ Where serum calcium is low, or clinical, or ECG signs of hypocalcaemia develop, infusions of calcium gluconate, or if less serious, oral Sandocal, should be given. Hydrocortisone 500 mg in a four to six hourly infusion may help.
- ▶ Antibiotics should not be given as a routine, but only when indicated.
- ▶ Eye contact pain may be excruciating and 2-3 drops of 0.05% pentocaine hydrochloride may be instilled, followed by further irrigation

#### BIOLOGICAL EXPOSURE INDEX - BEI

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

Determinant	Index	Sampling Time	Comments
1. Methaemoglobin in blood	1.5% of haemoglobin	During or end of shift	B, NS, SQ

B: Background levels occur in specimens collected from subjects **NOT** exposed.

NS: Non-specific determinant; Also seen after exposure to other materials

SQ: Semi-quantitative determinant - Interpretation may be ambiguous; should be used as a screening test or confirmatory test.

### SECTION 5 FIREFIGHTING MEASURES

## Extinguishing media

- ▶ Foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.
- ▶ Water spray or fog - Large fires only.

## Special hazards arising from the substrate or mixture

<b>Fire Incompatibility</b>	<ul style="list-style-type: none"> <li>▶ Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous</li> <li>Avoid storage with glass, cement, concrete and other silicon materials; reaction produces toxic silicon tetrafluoride gas; which may pressurise and/or rupture containers.</li> <li>Avoid reaction with           <ul style="list-style-type: none"> <li>amp;44j,</li> <li>powdered metals</li> <li>,</li> <li>reducing agents</li> <li>amp;11a amp;43dj1 amp;43ef</li> </ul> </li> <li>▶ Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.</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>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Consider evacuation (or protect in place).</li> <li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li> <li>▶ <b>DO NOT</b> approach containers suspected to be hot.</li> <li>▶ Cool fire exposed containers with water spray from a protected location.</li> <li>▶ If safe to do so, remove containers from path of fire.</li> <li>▶ Equipment should be thoroughly decontaminated after use.</li> </ul>
<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Non combustible.</li> <li>▶ Not considered to be a significant fire risk.</li> <li>▶ Acids may react with metals to produce hydrogen, a highly flammable and explosive gas.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ Decomposes on heating and may produce toxic fumes of carbon monoxide (CO).</li> <li>▶ May emit acrid smoke. May emit corrosive fumes.</li> </ul> <p>Other decomposition products include:</p> <ul style="list-style-type: none"> <li>amp;43cv,</li> <li>hydrogen fluoride</li> <li>amp;11a amp;43cz</li> </ul>
<b>HAZCHEM</b>	2X

## SECTION 6 ACCIDENTAL RELEASE MEASURES

### Personal precautions, protective equipment and emergency procedures

See section 8

### Environmental precautions

See section 12

### Methods and material for containment and cleaning up

<b>Minor Spills</b>	<ul style="list-style-type: none"> <li>▶ <b>DO NOT touch the spill material</b></li> <li>Clean up all spills immediately.</li> <li>Avoid breathing vapours and contact with skin and eyes.</li> <li>Wear impervious gloves and safety glasses.</li> <li>Use soda ash or slaked lime to neutralise.</li> <li>Trowel up/scrape up.</li> <li>Place spilled material in clean, dry, sealable, labelled container.</li> <li>Flush spill area with water.</li> </ul>
<b>Major Spills</b>	<ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ Consider evacuation (or protect in place).</li> <li>▶ Stop leak if safe to do so.</li> <li>▶ Contain spill with sand, earth or vermiculite.</li> <li>▶ Collect recoverable product into labelled containers for recycling.</li> <li>▶ Neutralise/decontaminate residue (see Section 13 for specific agent).</li> </ul>

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- ▶ Collect solid residues and seal in labelled drums for disposal.
- ▶ Wash area and prevent runoff into drains.
- ▶ After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.
- ▶ If contamination of drains or waterways occurs, advise emergency services.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 HANDLING AND STORAGE

### Precautions for safe handling

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ <b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> </ul> <p>Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS.</p> <ul style="list-style-type: none"> <li>▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.</li> </ul> <p>Avoid all personal contact, including inhalation Wear protective clothing when risk of exposure occurs. Avoid contact with incompatible materials.</p> <p><b>WARNING:</b> To avoid violent reaction, <b>ALWAYS</b> add material to water and <b>NEVER</b> water to material.</p> <ul style="list-style-type: none"> <li>▶ Handle and open container with care</li> </ul> <p><b>When handling, DO NOT eat, drink or smoke.</b></p> <p>Keep containers securely sealed when not in use Avoid physical damage to containers. Wash hands with soap and water after handling. Work clothes should be laundered separately: <b>NOT</b> at home.</p>
<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> <li>▶ Protect containers against physical damage and check regularly for leaks.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul> <p>For major quantities:</p> <ul style="list-style-type: none"> <li>▶ Consider storage in bunded areas - ensure storage areas are isolated from sources of community water (including stormwater, ground water, lakes and streams).</li> <li>▶ Ensure that accidental discharge to air or water is the subject of a contingency disaster management plan; this may require consultation with local authorities.</li> <li>▶ Keep containers securely sealed</li> </ul> <p>Store in a cool, dry and well-ventilated area.</p> <ul style="list-style-type: none"> <li>▶ Store away from incompatible materials.</li> </ul> <p>Floors should be covered or coated with acid resistant material.</p> <p><b>DO NOT stack on wooden pallets.</b></p> <ul style="list-style-type: none"> <li>▶ <b>DO NOT store in pits, depressions, basements or areas where vapours may be trapped</b></li> </ul> <p>Protect containers against physical damage</p> <ul style="list-style-type: none"> <li>▶ Check regularly for spills and leaks</li> </ul>

### Conditions for safe storage, including any incompatibilities

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ Polyethylene or polypropylene container.</li> <li>▶ Packing as recommended by manufacturer.</li> <li>▶ Check all containers are clearly labelled and free from leaks.</li> </ul>
<b>Storage incompatibility</b>	<p>Avoid storage with glass, cement, concrete and other silicon materials; reaction produces toxic silicon tetrafluoride gas; which may pressurise and/or rupture containers.</p> <ul style="list-style-type: none"> <li>▶ <b>DO NOT use unlined steel containers</b></li> <li>▶ <b>DO NOT use aluminium, galvanised or tin-plated containers</b></li> <li>▶ Segregate from alkalis, oxidising agents and chemicals readily decomposed by acids, i.e. cyanides, sulfides, carbonates.</li> </ul> <p>combustible materials amp;11a amp;44i8</p>

## SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

### Control parameters

#### OCCUPATIONAL EXPOSURE LIMITS (OEL)

#### INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
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Australia Exposure Standards	nitric acid	Nitric acid	5.2 mg/m <sup>3</sup> / 2 ppm	10 mg/m <sup>3</sup> / 4 ppm	Not Available	Not Available
Australia Exposure Standards	hydrofluoric acid	Hydrogen fluoride (as F)	Not Available	Not Available	2.6 mg/m <sup>3</sup> / 3 ppm	Not Available

### EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
nitric acid	Nitric acid	Not Available	Not Available	Not Available
hydrofluoric acid	Hydrogen fluoride; (Hydrofluoric acid)	Not Available	Not Available	Not Available






Ingredient	Original IDLH	Revised IDLH
nitric acid	100 ppm	25 ppm
hydrofluoric acid	30 ppm	30 [Unch] ppm
performance additives	Not Available	Not Available
water	Not Available	Not Available

### MATERIAL DATA

#### Exposure controls

<b>Appropriate engineering controls</b>	<p>Use in a well-ventilated area</p> <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. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>General exhaust is adequate under normal operating conditions. Local exhaust ventilation may be required in specific circumstances. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.</p>										
	<table border="1"> <thead> <tr> <th>Type of Contaminant:</th> <th>Air Speed:</th> </tr> </thead> <tbody> <tr> <td>solvent, vapours, degreasing etc., evaporating from tank (in still air).</td> <td>0.25-0.5 m/s (50-100 f/min)</td> </tr> <tr> <td>aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)</td> <td>0.5-1 m/s (100-200 f/min.)</td> </tr> <tr> <td>direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)</td> <td>1-2.5 m/s (200-500 f/min.)</td> </tr> <tr> <td>grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).</td> <td>2.5-10 m/s (500-2000 f/min.)</td> </tr> </tbody> </table>	Type of Contaminant:	Air Speed:	solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min)	aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)	direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)	grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)
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<p>Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.</p>											

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Personal protection	    
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>▶ Safety glasses with side shields</li> <li>▶ Chemical goggles.</li> <li>▶ Full face shield may be required for supplementary but never for primary protection of eyes.</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. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<ul style="list-style-type: none"> <li>▶ Barrier cream amp;11a amp;72neo amp;11c amp;72ni amp;72k1</li> <li>▶ Rubber boots amp;72t</li> </ul>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<p>Always ensure that a supply, is on hand, of calcium gluconate gel for treatment of burns and calcium carbonate tablets for accidental ingestion.</p> <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ PVC Apron.</li> <li>▶ PVC protective suit may be required if exposure severe.</li> <li>▶ Eyewash unit.</li> <li>▶ Ensure there is ready access to a safety shower.</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
##hydrofluoric	acid
NEOPRENE	A
BUTYL	C
BUTYL/NEOPRENE	C
HYPALON	C
NAT+NEOPR+NITRILE	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
NITRILE+PVC	C
PE	C
PE/EVAL/PE	C
PVA	C
PVC	C
SARANEX-23	C
VITON	C
VITON/NEOPRENE	C

\* CPI - Chemwatch Performance Index

A: Best Selection

## Respiratory protection

Type ABE-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	ABE-AUS P2	-	ABE-PAPR-AUS / Class 1 P2
up to 50 x ES	-	ABE-AUS / Class 1 P2	-
up to 100 x ES	-	ABE-2 P2	ABE-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(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)

Continued...

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.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	Opaque white acidic gel; mixes with water. Pungent acidic odour.		
<b>Physical state</b>	Non Slump Paste	<b>Relative density (Water = 1)</b>	1.33-1.35
<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>	< 1	<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>	Not Applicable	<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 Applicable	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	Not Applicable	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	Not Available	<b>Gas group</b>	Not Available
<b>Solubility in water (g/L)</b>	Miscible	<b>pH as a solution (1%)</b>	Not available.
<b>Vapour density (Air = 1)</b>	Not available.	<b>VOC g/L</b>	Not Available

## SECTION 10 STABILITY AND REACTIVITY

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	▸ Presence of heat source amp;1 amp;452
<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>	The vapour is extremely discomforting  Acidic corrosives produce respiratory tract irritation with coughing, choking and mucous membrane damage. Symptoms of exposure may include dizziness, headache, nausea and weakness. In more severe exposures, pulmonary oedema may be evident either immediately or after a latent period of 5-72 hours. Symptoms of pulmonary oedema include a tightness in the
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	<p>chest, dyspnoea, frothy sputum and cyanosis. Examination may reveal hypotension, a weak and rapid pulse and moist rates. Death, due to anoxia, may occur several hours after onset of the pulmonary oedema.</p> <p>Inhalation hazard is increased at higher temperatures.</p> <p>Acute effects of fluoride inhalation include irritation of nose and throat, coughing and chest discomfort.</p> <p>Even brief exposure to high concentrations of inorganic fluoride may cause sore throat, chest pains, pulmonary oedema, and in rare cases irreparable damage to the lungs, and death</p> <p>A single acute over-exposure may cause nose bleed. Pre-existing respiratory conditions such as emphysema, bronchitis may be aggravated by exposure. Occupational asthma may result from exposure.</p> <p>Reactions may not occur on exposure but response may be delayed with symptoms only appearing many hours later</p>
<p><b>Ingestion</b></p>	<p>Ingestion of acidic corrosives may produce circumoral burns with a distinct discolouration of the mucous membranes of the mouth, throat and oesophagus. Immediate pain and difficulties in swallowing and speaking may also be evident. Oedema of the epiglottis may produce respiratory distress and possibly, asphyxia. Nausea, vomiting, diarrhoea and a pronounced thirst may occur. More severe exposures may produce a vomitus containing fresh or dark blood and large shreds of mucosa.</p> <p>Shock, with marked hypotension, weak and rapid pulse, shallow respiration and clammy skin may be symptomatic of the exposure. Circulatory collapse may, if left untreated, result in renal failure. Severe cases may show gastric and oesophageal perforation with peritonitis, fever and abdominal rigidity. Stricture of the oesophageal, gastric and pyloric sphincter may occur as within several weeks or may be delayed for years. Death may be rapid and often results from asphyxia, circulatory collapse or aspiration of even minute amounts. Delayed deaths may be due to peritonitis, severe nephritis or pneumonia. Coma and convulsions may be terminal.</p>
<p><b>Skin Contact</b></p>	<p>Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue.</p> <p>The skin is readily penetrated by the fluoride ion causing liquefaction necrosis of the soft tissues and decalcification and corrosion of bone. Healing is delayed and necrotic changes may continue to occur and spread beneath a layer of tough coagulated skin.</p> <p>Percutaneous absorption of pure liquefied hydrogen fluoride gas produced severe hypocalcaemia, multiple attacks of ventricular fibrillation, and death 9.5 hours after exposure. Skin contact with hydrogen fluoride or solutions containing more than 30 percent hydrogen fluoride produces immediate pain; reactions to more dilute solutions may be delayed for many hours. The accompanying pain is excruciating and persistent due to delayed healing.</p> <p>[Skin contact causes yellow discolouration of the skin.</p>
<p><b>Eye</b></p>	<p>Eye contact is extremely painful and may cause rapid corneal damage</p> <p>Direct eye contact with acid corrosives may produce pain, lachrymation, photophobia and burns. Mild burns of the epithelia generally recover rapidly and completely. Severe burns produce long-lasting and possible irreversible damage. The appearance of the burn may not be apparent for several weeks after the initial contact. The cornea may ultimately become deeply vascularised and opaque resulting in blindness.</p> <p>Exposure can cause severe burns and prolonged or permanent loss of sight.</p>
<p><b>Chronic</b></p>	<p>Repeated or prolonged exposure to acids may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.</p> <p>The impact of inhaled acidic agents on the respiratory tract depends upon a number of interrelated factors. These include physicochemical characteristics, e.g., gas versus aerosol; particle size (small particles can penetrate deeper into the lung); water solubility (more soluble agents are more likely to be removed in the nose and mouth). Given the general lack of information on the particle size of aerosols involved in occupational exposures to acids, it is difficult to identify their principal deposition site within the respiratory tract. Acid mists containing particles with a diameter of up to a few micrometers will be deposited in both the upper and lower airways. They are irritating to mucous epithelia, they cause dental erosion, and they produce acute effects in the lungs (symptoms and changes in pulmonary function). Asthmatics appear to be at particular risk for pulmonary effects.</p> <p>Repeated human exposures to hydrogen fluoride (6 hours/day for 10-50 days) at concentrations as high as 4.7 ppm were tolerated without severe adverse reaction. At concentrations exceeding 3 ppm, researchers noted burning and irritation of the eyes and nose and burning of the skin. Three subjects who inhaled approximately 3 ppm had severe urinary excretions of 6.7-9.4 mg fluoride/day. One epidemiological study was able to demonstrate that there was no significant change in pulmonary function resulting from occupational exposure to average concentrations of 1.02 ppm hydrogen fluoride. A further study indicated a threshold for minimal increases (Grade 1) in bone density (fluorosis) at less than 3.38 mg/m<sup>3</sup> (4.3 ppm) hydrogen fluoride. Grade 1 fluorosis resulted in no medically recognised disability. Hydrogen fluoride readily penetrates the skin and causes decalcification and corrosion of the bone and underlying tissue (hypocalcaemia). Deaths due to hypocalcaemia have been cited in the literature. Ingestion will cause severe pain and burns in the mouth and throat. Profound and possibly fatal hypocalcaemia is likely to occur unless medical treatment is promptly initiated. Symptoms include spasm and twitching of the muscles, high fever, convulsion and general extreme pain. Inhalation may cause corrosion of the throat, nose and lungs, leading to severe inflammation, pulmonary oedema or possible hypocalcaemia. [NIOSH/TIC]</p>

<p><b>Proweld Pickling Gel</b></p>	<p><b>TOXICITY</b></p> <p>Not Available</p>	<p><b>IRRITATION</b></p> <p>Not Available</p>
<p><b>nitric acid</b></p>	<p><b>TOXICITY</b></p> <p>50-500 mg/kg*[2]</p> <p>Inhalation (rat) LC50: 625 ppm/1h*[2]</p>	<p><b>IRRITATION</b></p> <p>Not Available</p>

## Proweld Pickling Gel

<b>hydrofluoric acid</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Inhalation (rat) LC50: 1276 ppm/4hr <sup>[2]</sup> Inhalation (rat) LC50: 319 ppm/1hr <sup>[2]</sup>	Eye (human): 50 mg - SEVERE
<b>water</b>	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
<b>Legend:</b>	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

<b>NITRIC ACID</b>	<p>for acid mists, aerosols, vapours</p> <p>Data from assays for genotoxic activity in vitro suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Mucous secretion may protect the cells of the airways from direct exposure to inhaled acidic mists, just as mucous plays an important role in protecting the gastric epithelium from its auto-secreted hydrochloric acid. In considering whether pH itself induces genotoxic events in vivo in the respiratory system, comparison should be made with the human stomach, in which gastric juice may be at pH 1-2 under fasting or nocturnal conditions, and with the human urinary bladder, in which the pH of urine can range from &lt;5 to &gt; 7 and normally averages 6.2. Furthermore, exposures to low pH in vivo differ from exposures <i>in vitro</i> in that, <i>in vivo</i>, only a portion of the cell surface is subjected to the adverse conditions, so that perturbation of intracellular homeostasis may be maintained more readily than in vitro.</p> <p>The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) thickening of the epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Prolonged contact is unlikely, given the severity of response, but repeated exposures may produce severe ulceration. Oral (?) LD50: 50-500 mg/kg * [Various Manufacturers]</p>
<b>HYDROFLUORIC ACID</b>	(liver and kidney damage) [Manufacturer] for hydrogen fluoride (as vapour)
<b>NITRIC ACID &amp; HYDROFLUORIC ACID</b>	<p>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. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production.</p>
<b>NITRIC ACID &amp; HYDROFLUORIC ACID</b>	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
<b>NITRIC ACID &amp; HYDROFLUORIC ACID</b>	<p>The material may produce respiratory tract irritation. Symptoms of pulmonary irritation may include coughing, wheezing, laryngitis, shortness of breath, headache, nausea, and a burning sensation.</p> <p>Unlike most organs, the lung can respond to a chemical insult or a chemical agent, by first removing or neutralising the irritant and then repairing the damage (inflammation of the lungs may be a consequence).</p> <p>The repair process (which initially developed to protect mammalian lungs from foreign matter and antigens) may, however, cause further damage to the lungs (fibrosis for example) when activated by hazardous chemicals. Often, this results in an impairment of gas exchange, the primary function of the lungs. Therefore prolonged exposure to respiratory irritants may cause sustained breathing difficulties.</p>
<b>HYDROFLUORIC ACID &amp; WATER</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 available but does not fill the criteria for classification  
 ✓ – Data available to make classification

Continued...

⊘ – Data Not Available to make classification

## SECTION 12 ECOLOGICAL INFORMATION

### Toxicity

	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
<b>Proweld Pickling Gel</b>	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
<b>nitric acid</b>	NOEC	16	Crustacea	107mg/L	4
<b>hydrofluoric acid</b>	LC50	96	Fish	51mg/L	2
	EC50	48	Crustacea	=270mg/L	1
	NOEC	504	Fish	4mg/L	2
<b>water</b>	LC50	96	Fish	897.520mg/L	3
	EC50	96	Algae or other aquatic plants	8768.874mg/L	3
<b>Legend:</b>	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

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

### Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
water	LOW	LOW

### Bioaccumulative potential

Ingredient	Bioaccumulation
water	LOW (LogKOW = -1.38)

### Mobility in soil

Ingredient	Mobility
water	LOW (KOC = 14.3)



## SECTION 13 DISPOSAL CONSIDERATIONS

### Waste treatment methods

<b>Product / Packaging disposal</b>	<ul style="list-style-type: none"> <li>▶ Recycle wherever possible or consult manufacturer for recycling options.</li> <li>▶ Consult State Land Waste Management Authority for disposal.</li> <li>▶ Treat and neutralise at an effluent treatment plant.</li> <li>▶ Use soda ash or slaked lime to neutralise.</li> <li>▶ Recycle containers, otherwise dispose of in an authorised landfill.</li> </ul>
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## SECTION 14 TRANSPORT INFORMATION

### Labels Required

	 
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Continued...

## Proweld Pickling Gel

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

### Land transport (ADG)

<b>UN number</b>	2922				
<b>UN proper shipping name</b>	CORROSIVE LIQUID, TOXIC, N.O.S. (contains nitric acid and hydrofluoric acid)				
<b>Transport hazard class(es)</b>	<table border="1"> <tr> <td>Class</td> <td>8</td> </tr> <tr> <td>Subrisk</td> <td>6.1</td> </tr> </table>	Class	8	Subrisk	6.1
Class	8				
Subrisk	6.1				
<b>Packing group</b>	II				
<b>Environmental hazard</b>	Not Applicable				
<b>Special precautions for user</b>	<table border="1"> <tr> <td>Special provisions</td> <td>274</td> </tr> <tr> <td>Limited quantity</td> <td>1 L</td> </tr> </table>	Special provisions	274	Limited quantity	1 L
Special provisions	274				
Limited quantity	1 L				

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

<b>UN number</b>	2922														
<b>UN proper shipping name</b>	Corrosive liquid, toxic, n.o.s. * (contains nitric acid and hydrofluoric acid)														
<b>Transport hazard class(es)</b>	<table border="1"> <tr> <td>ICAO/IATA Class</td> <td>8</td> </tr> <tr> <td>ICAO / IATA Subrisk</td> <td>6.1</td> </tr> <tr> <td>ERG Code</td> <td>8P</td> </tr> </table>	ICAO/IATA Class	8	ICAO / IATA Subrisk	6.1	ERG Code	8P								
ICAO/IATA Class	8														
ICAO / IATA Subrisk	6.1														
ERG Code	8P														
<b>Packing group</b>	II														
<b>Environmental hazard</b>	Not Applicable														
<b>Special precautions for user</b>	<table border="1"> <tr> <td>Special provisions</td> <td>A3A803</td> </tr> <tr> <td>Cargo Only Packing Instructions</td> <td>855</td> </tr> <tr> <td>Cargo Only Maximum Qty / Pack</td> <td>30 L</td> </tr> <tr> <td>Passenger and Cargo Packing Instructions</td> <td>851</td> </tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td> <td>1 L</td> </tr> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td> <td>Y840</td> </tr> <tr> <td>Passenger and Cargo Limited Maximum Qty / Pack</td> <td>0.5 L</td> </tr> </table>	Special provisions	A3A803	Cargo Only Packing Instructions	855	Cargo Only Maximum Qty / Pack	30 L	Passenger and Cargo Packing Instructions	851	Passenger and Cargo Maximum Qty / Pack	1 L	Passenger and Cargo Limited Quantity Packing Instructions	Y840	Passenger and Cargo Limited Maximum Qty / Pack	0.5 L
Special provisions	A3A803														
Cargo Only Packing Instructions	855														
Cargo Only Maximum Qty / Pack	30 L														
Passenger and Cargo Packing Instructions	851														
Passenger and Cargo Maximum Qty / Pack	1 L														
Passenger and Cargo Limited Quantity Packing Instructions	Y840														
Passenger and Cargo Limited Maximum Qty / Pack	0.5 L														

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

<b>UN number</b>	2922						
<b>UN proper shipping name</b>	CORROSIVE LIQUID, TOXIC, N.O.S. (contains nitric acid and hydrofluoric acid)						
<b>Transport hazard class(es)</b>	<table border="1"> <tr> <td>IMDG Class</td> <td>8</td> </tr> <tr> <td>IMDG Subrisk</td> <td>6.1</td> </tr> </table>	IMDG Class	8	IMDG Subrisk	6.1		
IMDG Class	8						
IMDG Subrisk	6.1						
<b>Packing group</b>	II						
<b>Environmental hazard</b>	Not Applicable						
<b>Special precautions for user</b>	<table border="1"> <tr> <td>EMS Number</td> <td>F-A , S-B</td> </tr> <tr> <td>Special provisions</td> <td>274</td> </tr> <tr> <td>Limited Quantities</td> <td>1 L</td> </tr> </table>	EMS Number	F-A , S-B	Special provisions	274	Limited Quantities	1 L
EMS Number	F-A , S-B						
Special provisions	274						
Limited Quantities	1 L						

### Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

## SECTION 15 REGULATORY INFORMATION

Safety, health and environmental regulations / legislation specific for the substance or mixture

Continued...

**NITRIC ACID(7697-37-2) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Exposure Standards

Australia Hazardous Substances Information System - Consolidated Lists

Australia Inventory of Chemical Substances (AICS)

International Air Transport Association (IATA) Dangerous Goods Regulations  
- Prohibited List Passenger and Cargo Aircraft**HYDROFLUORIC ACID(7664-39-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Exposure Standards

Australia Hazardous Substances Information System - Consolidated Lists

Australia Inventory of Chemical Substances (AICS)

International Agency for Research on Cancer (IARC) - Agents Classified  
by the IARC Monographs**WATER(7732-18-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS**

Australia Inventory of Chemical Substances (AICS)

National Inventory	Status
Australia - AICS	Y
Canada - DSL	Y
Canada - NDSL	N (water; hydrofluoric acid; nitric acid)
China - IECSC	Y
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (hydrofluoric acid; nitric acid)
Korea - KECI	Y
New Zealand - NZIoC	Y
Philippines - PICCS	Y
USA - TSCA	Y
<b>Legend:</b>	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)

**SECTION 16 OTHER INFORMATION****Other information****Ingredients with multiple cas numbers**

Name	CAS No
hydrofluoric acid	7664-39-3, 790596-14-4

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.

The 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.

**Definitions and abbreviations**

PC—TWA: Permissible Concentration-Time Weighted Average  
 PC—STEL: Permissible Concentration-Short Term Exposure Limit  
 IARC: International Agency for Research on Cancer  
 ACGIH: American Conference of Governmental Industrial Hygienists  
 STEL: Short Term Exposure Limit  
 TEEL: Temporary Emergency Exposure Limit.  
 IDLH: Immediately Dangerous to Life or Health Concentrations  
 OSF: Odour Safety Factor  
 NOAEL :No Observed Adverse Effect Level  
 LOAEL: Lowest Observed Adverse Effect Level  
 TLV: Threshold Limit Value  
 LOD: Limit Of Detection  
 OTV: Odour Threshold Value  
 BCF: BioConcentration Factors  
 BEI: Biological Exposure Index

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**Proweld Pickling Gel**

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