



Material Safety Data Sheet

1 Identification of substance:

- **Product name:** PPS TITANIUM PICKLE
- **Stock number:** 176874
- **Manufacturer/Supplier:**
PPS Industries Limited
86 Hugo Johnston Drive,
Penrose,
Auckland, New Zealand
P.O.Box 12-823, Penrose, Auckland 1642
Phone: 64 9 579-1001
Facsimile: 64 9 579-9474
Emergency Phone: 0800 657 894 Monday to Friday 8am-4pm
Web Site: www.ppsindustries.co.nz

- **Emergency contact detail:**
For emergency only. During normal hours call PPS Industries office.

| Organization | Location | Phone |
|--|-------------|---------------|
| National POSION CENTER | New Zealand | 0800 647-766 |
| Chemcall 24/7 Emergency Response Service | New Zealand | 0800 243-6225 |

2 Hazards identification

Classified as hazardous according to the criteria in the EPA Hazardous Substances (Minimum Degrees of Hazard) Notice 2017.
Classified as a Dangerous Goods according to NZS 5433.

Hazard description: Class 8 - 6.1, Corrosive liquid, toxic, N.O.S., Packing Group II, UN 2922.

HSNO Class:

Class 6 Toxicity

6.1C (all) acutely toxic
6.1C (oral) acutely toxic
6.1C (dermal) acutely toxic
6.1D (inhalation) acutely toxic
6.9B (oral) special target organ toxicity

Class 8 Corrosive

8.1A metallic corrosive
8.2B skin corrosive
8.3A eye corrosive

EPA Group Standard: HSR002510 - Additives, Process Chemicals and Raw Material (Toxic [6.1], Corrosive)

GHS Classification:

Hazard Pictogram:



PPS INDUSTRIES LIMITED



Signal word: Danger

Hazard class:

Acute Toxicity: oral Category 3

Acute Toxicity: Dermal Category 3

Acute Toxicity: Inhalation Category 4

Specific Target organ Toxicity Repeated exposure Category 2

serious eye damage/eye irritation Category 1

Skin corrosion/irritation Category 1A

Corrosive to metals category 1

Hazard statement(s):

H301 Toxic if swallowed

H311 Toxic in contact with skin

H332 Harmful if inhaled

H290 May be corrosive to metals

H318 Causes serious eye damage

H314 Causes skin burns and eye damage

H371 May cause damage to organs

Precautionary Statement(s) Prevention:

P261 Avoid breathing dust/fume/gas/mist/vapour/spray.

P271 Use only outdoors or in a well-ventilated area.

P234 Keep only in original container

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children

P103 read labels before use.

P264 Wash the hands and other exposed parts of the body, thoroughly after Handling.

P270 Do not eat, drink or smoke when using this product.

P101 If medical advice is needed, have product container or label at hand.

P102 Keep out of reach of children

P103 read labels before use

P280 Wear protective gloves/protective clothing/eye protection/face Protection.

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash the affected body parts thoroughly after handling.

P280 wear protective gloves/protective clothing/eye protection/face protection.



P280 Wear protective gloves/protective clothing/eye protection/face protection

P260 Do not breathe dust/fume/gas/mist/vapours/spray.

P264 Wash the affected body parts thoroughly after handling

P270 Do not eat, drink or smoke when using this product

Precautionary Statement(S) Response:

P301+P310 If swallowed: Immediately call poison centre or doctor. Rinse Mouth With water.

P321 See specific treatment on the label

P302+P350 If on skin: Gently wash with plenty of soap and water.

Immediately Call a poison centre or doctor

P322 For specific measures read the Label.

P361 Take off immediately all the contaminated cloths

P363 wash contaminated clothing before reuse.

P304+P340+P312 If inhaled: Remove person to fresh air and keep Comfortable for Breathing. Call poison centre or doctor if you feel unwell.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact Lenses if present and easy to do. Continue rinsing.

P310 Immediately call a POISON CENTER or doctor/physician.

P390 Collect spillage

P301+P330+P331 If swallowed: Rinse mouth. Do not induce vomiting.

P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water (or shower)

P363+P304+P340 Wash contaminated clothing before reuse. If inhaled: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P310 Immediately call a poison centre or a doctor.

P321 For specific treatment read the Label.

P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

P309+P311 If exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

Precautionary Statement(S) Storage:

P404 Store in a closed container

P405 Store Locked up

Precautionary Statement(S) Disposal:

P501 Dispose of contents/container to an appropriate treatment and



Disposal facility in accordance with applicable laws and regulations.

3 Composition/Data on components:

Chemical characterization:

| Description: | (CAS#) | Concentration | Hazardous |
|-------------------|-----------|---------------|-----------|
| Hydrofluoric acid | 7664-39-3 | <7 % | Yes |
| Nitric acid | 7697-37-2 | < 14 % | Yes |
| Water | 7732-18-5 | balance | No |

4 First aid measures

Ingestion: If conscious, give plenty of water to drink. DO NOT INDUCE vomiting. Contact the National Poisons Centre **0800 764 766 (0800 POISON)** or a Doctor immediately. If vomiting occurs, place victim face downward, with the head turned to the side and lower than the hips to prevent vomit entering the lungs.

Eye contact: Remove contact lenses if worn. Apply continuous irrigation with water for at least 15 minutes holding eyelids apart. Seek medical attention if effect persists.

Skin contact: Product may cause burns. Flush immediately with large amounts of water. Remove all contaminated clothing. Contact a doctor or put on Calcium Gluconate gel.

Inhaled: Remove victim from exposure. Remove contaminated clothing and loosen remaining clothing. Allow patient to assume most comfortable position and keep warm. Keep victim at rest until fully recovered. If breathing is laboured and patient cyanotic (blue), ensure airways are clear and have qualified person give oxygen through a facemask. If breathing has stopped, apply artificial respiration at once. In event of cardiac arrest, apply cardiopulmonary resuscitation (CPR) if trained. Seek medical attention.

Advice to Doctor: "Ingestion of fluorides may cause, vomiting diarrhea and cramp-like pain. Long-term chronic exposure may cause fluorosis."

5 Fire fighting measures

Fire and explosion hazards: There are no specific risks for fire/explosion for this chemical. It is non-flammable.

Extinguishing Media: Carbon dioxide, extinguishing powder, foam, fog sprays.

Unsuitable extinguishing substances: Unknown.

Products of combustion: Possible HF, F- upon heating to decomposition.

Protective gear: Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection.

6 Accidental release measures

Containment:

If greater than 10000L is stored, secondary containment and emergency plans to manage any potential spills must be place.

Emergency procedures:

In the event of spillage alert the fire brigade to location and give brief description of hazard.



Wear protective equipment to prevent skin, eye and respiratory exposure.

Clear area of any unprotected personnel.

Contain using sand, earth or vermiculite. Do not use sawdust on concentrate.

Prevent by whatever means possible any spillage from entering drains, sewers, or water sources. (If this occurs contact your local council immediately).

Clean-up method:

Use absorbent (soil, sand or other inert material). Collect and seal in properly labeled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.

Disposal:

Mop up and collect recoverable material into labeled containers for recycling or salvage. Recycle containers wherever possible. This material may be suitable for approved landfill. Dispose of only in accord with all regulations.

Precautions:

Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours.

Work up wind or increase ventilation.

7 Handling and storage

Storage:

Avoid storage of harmful substances with food. Store out of reach of children. Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open flames. Avoid contact with incompatible substances as listed in Section 10.

Handling:

Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of vapour, mist or aerosols.

8 Exposure controls and personal protection

• **Personal protective equipment**

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area.

• **General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

• **Breathing equipment:**

Use suitable respirator when high concentrations are present.

• **Eye protection:** Use chemical safety goggles and/or full-face shield where splashing of solutions is possible. Maintain eye wash fountain facilities



in work area.

Skin protection: Wear protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

9 Physical and chemical properties:

| | |
|-----------------------------------|---------------------------------|
| Appearance: | Clear liquid |
| Colour: | translucent |
| Odour: | no particular odour |
| Vapour pressure: | not applicable |
| Vapour density | not applicable |
| Boiling point: | not applicable |
| Volatile materials: | Nitric acid, water phase |
| Freezing / melting point: | not applicable |
| Solubility: | completely soluble in water |
| Density: | 1.05 g/cm ³ at 20 °C |
| Flash point: | non flammable |
| Danger of explosion: | not explosive |
| Auto-ignition temperature: | non flammable |
| Upper and lower flammable limits: | non flammable |
| Corrosiveness: | corrosive |

10 Stability and reactivity

Stability:

This product is unlikely to react or decompose under normal storage conditions. This product will react with metals, concrete.

Conditions to be avoided:

Containers should be kept closed in order to avoid contamination. Keep from extreme heat and open flames.

Incompatible groups:

oxidisers, alkaline based chemicals.

Substance specific incompatibility:

There are no specific incompatibilities for this chemical.

Hazardous decomposition products:

Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and under some circumstances, oxides of nitrogen. Water.

Hazardous reactions:

Not specific hazards.

11 Toxicological information

No specific data is available for this product. Where available, toxicological data has been researched and data for the mixture calculated. The results of these calculations are presented below. The product is considered to have the following toxicity:

Acute:

Oral: Calculated for hydrofluoric acid and nitric acid mixture
LD50 45.45 mg/l (oral, rat).

Dermal: Calculated for hydrofluoric acid and nitric acid mixture
LD50 434.78 mg/l (dermal, rat).

Inhaled Calculated for hydrofluoric acid and nitric acid mixture
LD50 1.2 mg/l (dust or mist, rat).

Eye: The mixture is pH < 2, which is corrosive to the eye, because



some of the ingredients present at 22% are considered eye corrosives.

Skin: The mixture is considered to be corrosive to the skin, because some of the ingredients present at 22% are considered skin corrosives.

12 Ecological information:

No specific data is available for this product. Where available, ecotoxicological data has been researched and data for the mixture calculated. The results of these calculations are presented below. The product is considered to have the following ecotoxicity groups:

Aquatic: No data for mixture is available. Using EC₅₀'s for ingredients, the calculated EC₅₀ for the mixture is between 1 and 100 mg/L and none of the components are considered bioaccumulative or persistent in the aquatic environment. Data considered includes: alkali earth metal fluorides Data unavailable, nitric acid 72mg/l (fish).

Bioaccumulation: this product is biodegradable.

Degradability: It will not accumulate in the soil or water.

Soil: No data available for the mixture. Hydrofluoric acid has not classified as ecotoxic in the soil environment. The soil toxicity value for the mixture is $\geq 100\text{mg/kg}$.

Terrestrial vertebrate:

The mixture does not trigger classification as harmful to terrestrial vertebrates. Using LD₅₀'s for ingredients, the calculated LD₅₀ (oral, rat) for the mixture is $> 2,000\text{ mg/kg}$. Data considered includes: alkali earth metal fluorides: $\text{LDL0} > 1000\text{ mg/kg}$, nitric acid $> 5000\text{ mg/kg}$, ammonium nitrate $> 2217\text{mg/kg}$.

Terrestrial invertebrate:

The mixture does not trigger classification. None of the ingredients are known to be toxic towards terrestrial invertebrates. The estimated invertebrate ecotoxicity value for the mixture is $> 25\text{ ug/bee}$.

13 Disposal considerations

Restrictions:

There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents.

Disposal method:

This product may be recycle if unused. Dispose of contaminated product and/or empty container to landfill.

Contaminated packaging:

Rinse containers with water before disposal. Preferably re-cycle container, otherwise send to landfill or similar.

14 Transport information

Transport according to NZS 5433 (Transport of Hazardous Substances on Land). Considered a hazardous substance for transport.



PPS INDUSTRIES LIMITED

| | |
|-----------------------|---------------------------------|
| Proper shipping name: | Corrosive liquid, toxic, n.o.s. |
| UN number: | 2922 |
| Class(es): | 8, 6.1 |
| HAZCHEM: | 2XE |
| Packing group: | PG II |

15 Regulations

HSNO Class:

Class 6 Toxicity

| | |
|-------------------|-------------------------------|
| 6.1C (all) | acutely toxic |
| 6.1C (oral) | acutely toxic |
| 6.1C (dermal) | acutely toxic |
| 6.1D (inhalation) | acutely toxic |
| 6.9B (oral) | special target organ toxicity |

Class 8 Corrosive

| | |
|------|--------------------|
| 8.1A | metallic corrosive |
| 8.2B | skin corrosive |
| 8.3A | eye corrosive |

EPA Group Standard: HSR002510 - Additives, Process Chemicals and Raw Material (Toxic [6.1], Corrosive)

Certified Handler : Not Applicable

Tracking : Not Applicable

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Issue date: 13/09/2021

Review date: 13/09/2026