

Safety Data Sheet



Hazardous Chemical, Dangerous Goods

Neutron[®] Pharmachemical Co.
Manufacturer of Laboratory Chemical & Pharmaceutical Materials

1. MATERIAL AND SUPPLY COMPANY IDENTIFICATION

Product name: Davis reagent

Recommended use: Metal pickling solution

Supplier:

NEUTRON PHARMACHEMICAL CO 98, 9th Floor, Borjsaz
Building, Azadi Ave, Tehran, Iran.

info@neutronco.com

www.neutronco.com

Telephone: T 021-66906732-3 - F 021-66581408

Emergency Telephone number: 125

2. HAZARDS IDENTIFICATION

This material is hazardous according to health criteria of Safe Work Australia.



Signal Word

Danger

Hazard Classifications

Acute Toxicity - Oral - Category 2

Acute Toxicity - Dermal - Category 1

Acute Toxicity - Inhalation - Category 2

Corrosive to Metals - Category 1

Skin Corrosion/Irritation - Category 1A

Hazard Statements

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

Prevention Precautionary Statements

- | | |
|------|--|
| P102 | Keep out of reach of children. |
| P103 | Read label before use. |
| P234 | Keep only in original container. |
| P260 | Do not breathe dust, fume, gas, mist, vapours or spray. |
| P262 | Do not get in eyes, on skin, or on clothing. |
| P264 | Wash hands, face and all exposed skin thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P280 | Wear protective clothing, gloves, eye/face protection and suitable respirator. |
| P284 | Wear respiratory protection. |

Response Precautionary Statements

Product Name: Pickle It Liquid

Reference No: 3900

Issued: 2017-02-07

Version: 1.1

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P101	If medical advice is needed, have product container or label at hand.
P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302+P350	IF ON SKIN: Gently wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
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.
P320	Specific treatment is urgent (see Treat with calcium gluconate gel and benzoalkonium solution. product label).
P330	Rinse mouth.
P361	Remove/Take off immediately all contaminated clothing.
P363	Wash contaminated clothing before reuse.
P390	Absorb spillage to prevent material damage.

Storage Precautionary Statements

P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P406	Store in original container with a resistant inner liner.

Disposal Precautionary Statement

P501	Dispose of contents/container in accordance with local, regional, national and international regulations.
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Poison Schedule: S7. Dangerous Poison

DANGEROUS GOOD CLASSIFICATION

Classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

Dangerous Goods Class: 8

Subrisk 1: 6.1

3. COMPOSITION INFORMATION

CHEMICAL ENTITY	CAS NO	PROPORTION
Hydrofluoric acid	7664-39-3	<10 % (w/w)
Nitric acid	7697-37-2	<30 % (w/w)
Ingredients determined to be Non-Hazardous		Balance

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre (Phone Australia 131 126, New Zealand 0800 764 766).

Inhalation: Inhalation of this product is not considered likely. However, if this product is exposed to incompatible materials, it may release noxious oxides of nitrogen (usually brown vapours) which are toxic. If brown vapours are being released, immediately leave the area and prevent others from entering.

Skin Contact: Medical attention must be provided immediately. Quickly remove contaminated clothing and continually flush exposed areas of skin with large volumes of water. Rinsing may be limited to 5 minutes if 0.13% benzalkonium chloride solution or 2.5% calcium gluconate gel is available, with the soaks or gel applied as soon as the rinsing is stopped. If not available, rinsing must continue until medical treatment is rendered. Immediately

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after thorough washing, use one of the measures below. Begin soaking the affected areas in iced 0.13% benzalkonium chloride solution. Use ice cubes, not shaved ice, in order to prevent frostbite. If immersion is not practical, towels should be soaked with iced 0.13% benzalkonium chloride solution and used as compresses for the burned area. Compresses should be changed every 2 to 3 minutes. Soaks or compresses should be continued until pain is relieved or until more definitive medical treatment is provided. Relief of the pain is an indication of the success of treatment; therefore, local anaesthetics should be avoided. It is recommended the applier wear chemical protective gloves (e.g. butyl rubber gloves). Gently massage a liberal quantity of calcium gluconate gel if available or prepare at site by adding 10 mL of 10% calcium gluconate injectable solution to 30 mL of KY jelly or other water soluble gel. Do not use calcium chloride as it causes skin necrosis). Apply gel every 15 minutes and massage continuously until pain subsides and/or redness disappears or until medical attention becomes available. It is recommended the applier wear chemical protective gloves, (e.g. butyl rubber gloves). Exposure to low concentrations may be followed by a delayed onset of symptoms; seek immediate medical attention for all exposures to any concentration of hydrofluoric acid.

Eye contact: Call a Poisons Information Centre or a doctor urgently. Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for at least 60 minutes, by the clock, while holding the eyelid(s) open. Neutral saline solution may be used as soon as it is available. DO NOT INTERRUPT FLUSHING. If necessary, keep emergency vehicle waiting (show paramedics this MSDS and take their advice). Take care not to rinse contaminated water into the unaffected eye or onto face. Take special care if exposed person is wearing contact lenses.

Ingestion: If swallowed, do NOT induce vomiting; rinse mouth thoroughly with water and contact a Poisons Information Centre, or call a doctor at once. Give activated charcoal if instructed. Seek urgent medical attention.

Notes to physician: Treat symptomatically. Can cause corneal burns. See treatments listed under Skin Contact Information.

5. FIRE FIGHTING MEASURES

Hazchem Code: 2W

Suitable extinguishing media: If material is involved in a fire use water fog (or if unavailable fine water spray), alcohol resistant foam, standard foam, dry agent (carbon dioxide, dry chemical powder).

Specific hazards: Non-combustible material.

Fire fighting further advice: Not applicable.

6. ACCIDENTAL RELEASE MEASURES

SMALL SPILLS

Wear protective equipment to prevent skin and eye contamination. Avoid inhalation of vapours or dust. Wipe up with absorbent (clean rag or paper towels). Collect and seal in properly labelled containers or drums for disposal.

LARGE SPILLS

Clear area of all unprotected personnel. Slippery when spilt. Avoid accidents, clean up immediately. Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation. Contain - prevent run off into drains and waterways. Use absorbent (soil, sand or other inert material). Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.

Dangerous Goods – Initial Emergency Response Guide No: 40

7. HANDLING AND STORAGE

Handling: Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols.

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Storage: Store in a cool, dry, well-ventilated place and out of direct sunlight. Store away from foodstuffs. Store away from incompatible materials described in Section 10. Store away from sources of heat and/or ignition. Store locked up. Store in corrosive resistant container with a resistant inner liner. Keep container standing upright. Keep containers closed when not in use - check regularly for leaks.

This material is classified as a Class 8 Corrosive, Division 6.1 Toxic Substance as per the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and/or the "New Zealand NZS5433: Transport of Dangerous Goods on Land" and must be stored in accordance with the relevant regulations.

This material is a Scheduled Poison Schedule 7 (Dangerous Poison) and must be stored, maintained and used in accordance with the relevant regulations.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

National occupational exposure limits:

	TWA		STEL		NOTICES
	ppm	mg/m3	ppm	mg/m3	
Hydrogen fluoride (as F)	3 Peak limitation	2.6 Peak limitation	-	-	-
Nitric acid	2	5.2	4	10	-

As published by Safe Work Australia.

TWA - The time-weighted average airborne concentration over an eight-hour working day, for a five-day working week over an entire working life.

STEL (Short Term Exposure Limit) - the average airborne concentration over a 15 minute period which should not be exceeded at any time during a normal eight-hour workday.

These Exposure Standards are guides to be used in the control of occupational health hazards. All atmospheric contamination should be kept too as low a level as is workable. These exposure standards should not be used as fine dividing lines between safe and dangerous concentrations of chemicals. They are not a measure of relative toxicity.

If the directions for use on the product label are followed, exposure of individuals using the product should not exceed the above standard. The standard was created for workers who are routinely, potentially exposed during product manufacture.

Biological Limit Values: As per the "National Model Regulations for the Control of Workplace Hazardous Substances (Safe Work Australia)" the ingredients in this material do not have a Biological Limit Allocated.

Engineering Measures: Ensure ventilation is adequate to maintain air concentrations below Exposure Standards. Use only in well ventilated areas. Use with local exhaust ventilation or while wearing appropriate respirator.

Personal Protection Equipment: SAFETY SHOES, GLOVES, FACE SHIELD, RESPIRATOR.

Wear safety shoes, gloves, face shield, respirator. Use with adequate ventilation. If inhalation risk exists wear organic vapour/particulate respirator meeting the requirements of AS/NZS 1715 and AS/NZS 1716. Available information suggests that gloves made from should be suitable for intermittent contact. However, due to variations in glove construction and local conditions, the user should make a final assessment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. When using do not eat, drink or smoke. Wash hands prior to eating, drinking or smoking. Avoid contact with clothing. Avoid eye contact and skin contact. Avoid inhalation of vapour, mist or aerosols. Ensure that eyewash stations and safety showers are close to the workstation location.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Clear Liquid
Colour:	Colourless
Odour:	Pungent odour
Solubility:	Miscible
Specific Gravity (20 °C):	~1.1
Vapour Pressure (20 °C):	2.37kPa @20C
Autoignition Temperature (°C):	Not flammable
Melting Point/Range (°C):	<0
Boiling Point/Range (°C):	~100
pH:	3.0-3.5
% Volatile by Volume:	Water component

(Typical values only - consult specification sheet)
N Av = Not available, N App = Not applicable

10. STABILITY AND REACTIVITY

Chemical stability: Stable under normal ambient conditions of transport, storage, handling, and usage.

Conditions to avoid: Keep Cool <30C, tightly closed, and dry; contact with water may cause violent release of heat and steam as well as spattering the product. Keep container in well ventilated areas. Keep away from combustible materials.

Incompatible materials: bases, most metals, anything incompatible with strong oxidants. Do NOT add water to concentrated acids; always dilute by addition of acid to water.

Hazardous decomposition products: During fire conditions this product may release oxides of nitrogen, and after evaporating to dryness may release hydrogen fluoride vapour. Both are toxic, potentially corrosive and dangerous. If in contact with incompatible materials, this product is likely to release noxious oxides of nitrogen.

Hazardous reactions: No known hazardous polymerisations

11. TOXICOLOGICAL INFORMATION

No adverse health effects expected if the product is handled in accordance with this Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled and overexposure occurs are:

Acute Effects

Inhalation: Fatal if inhaled. Material may be an irritant to mucous membranes and respiratory tract.

Skin contact: Fatal in contact with skin. Can be absorbed through the skin with resultant toxic effects. Causes chemical burns.

Ingestion: Fatal if swallowed. Swallowing can result in nausea, vomiting, diarrhoea, abdominal pain and chemical burns to the gastrointestinal tract.

Eye contact: Causes chemical burns.

Acute toxicity

Inhalation: This material has been classified as a Category 2 Hazard. Acute toxicity estimate (based on ingredients): 0.5 - 2.0 mg/L

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Skin contact: This material has been classified as a Category 1 Hazard. Acute toxicity estimate (based on ingredients): <50 mg/Kg

Ingestion: This material has been classified as a Category 2 Hazard. Acute toxicity estimate (based on ingredients): 5 - 50 mg/Kg

Corrosion/Irritancy: Eye: this material has been classified as not corrosive or irritating to eyes. Skin: this material has been classified as a Category 1A Hazard (irreversible effects to skin).

Sensitisation: Inhalation: this material has been classified as not a respiratory sensitiser. Skin: this material has been classified as not a skin sensitiser.

Aspiration hazard: This material has been classified as non-hazardous.

Specific target organ toxicity (single exposure): This material has been classified as non-hazardous.

Chronic Toxicity

Mutagenicity: This material has been classified as non-hazardous.

Carcinogenicity: This material has been classified as non-hazardous.

Reproductive toxicity (including via lactation): This material has been classified as non-hazardous.

Specific target organ toxicity (repeat exposure): This material has been classified as non-hazardous.

12. ECOLOGICAL INFORMATION

Avoid contaminating waterways.

Acute aquatic hazard: Toxic to aquatic life due to pH change.

Long-term aquatic hazard: No expected long-term effects as the material is highly reactive and unlikely to be persistent. Quickly dilutes or is neutralised in the environment.

Ecotoxicity: No information available.

Persistence and degradability: No information available.

Bioaccumulative potential: No information available.

Mobility: No information available.

13. DISPOSAL CONSIDERATIONS

Persons conducting disposal, recycling or reclamation activities should ensure that appropriate personal protection equipment is used, see "Section 8. Exposure Controls and Personal Protection" of this SDS.

If possible material and its container should be recycled. If material or container cannot be recycled, dispose in accordance with local, regional, national and international Regulations.

14. TRANSPORT INFORMATION

ROAD AND RAIL TRANSPORT

Classified as Dangerous Goods by the criteria of the "Australian Code for the Transport of Dangerous Goods by Road & Rail" and the "New Zealand NZS5433: Transport of Dangerous Goods on Land".

Product Name: Pickle It Liquid

Reference No: 3900

Issued: 2017-02-07

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UN No: 1790
Dangerous Goods Class: 8
Subrisk 1: 6.1
Packing Group: II
Hazchem Code: 2W
Emergency Response Guide No: 40

Proper Shipping Name: HYDROFLUORIC ACID

Segregation Dangerous Goods: Not to be loaded with explosives (Class 1), dangerous when wet substances (Class 4.3), oxidising agents (Class 5.1), organic peroxides (Class 5.2), radioactive substances (Class 7) or food and food packaging in any quantity. Note 1: Concentrated strong alkalis are incompatible with concentrated strong acids. Note 2: Concentrated strong acids are incompatible with concentrated strong alkalis. Note 3: Acids are incompatible with Dangerous Goods of Class 6 which are cyanides. Exemptions may apply.

MARINE TRANSPORT

Classified as Dangerous Goods by the criteria of the International Maritime Dangerous Goods Code (IMDG Code) for transport by sea.



UN No: 1790
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Packing Group: II

Proper Shipping Name: HYDROFLUORIC ACID

AIR TRANSPORT

Classified as Dangerous Goods by the criteria of the International Air Transport Association (IATA) Dangerous Goods Regulations for transport by air.



UN No: 1790
Dangerous Goods Class: 8
Subrisk 1: 6.1
Packing Group: II

Proper Shipping Name: HYDROFLUORIC ACID

15. REGULATORY INFORMATION

This material is not subject to the following international agreements:
Montreal Protocol (Ozone depleting substances)

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The Stockholm Convention (Persistent Organic Pollutants)
The Rotterdam Convention (Prior Informed Consent)
Basel Convention (Hazardous Waste)
International Convention for the Prevention of Pollution from Ships (MARPOL)

This material/constituent(s) is covered by the following requirements:

- The Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) established under the Therapeutic Goods Act (Commonwealth).
- All components of this product are listed on or exempt from the Australian Inventory of Chemical Substances (AICS).

16. OTHER INFORMATION

Reason for issue: Change in physical properties

This information was prepared in good faith from the best information available at the time of issue. It is based on the present level of research and to this extent we believe it is accurate. However, no guarantee of accuracy is made or implied and since conditions of use are beyond our control, all information relevant to usage is offered without warranty. The manufacturer will not be held responsible for any unauthorised use of this information or for any modified or altered versions.

If you are an employer it is your duty to tell your employees, and any others that may be affected, of any hazards described in this sheet and of any precautions that should be taken.

Safety Data Sheets are updated frequently. Please ensure you have a current copy.