
1. IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Product name STAINLESS STEEL PICKLING SOLUTION
Synonyms PICKLING SOLUTION

1.2 Uses and uses advised against

Uses PICKLING AGENT • PICKLING OF METALS

1.3 Details of the supplier of the product

Supplier name DUBOIS CHEMICALS AUSTRALIA PTY LIMITED
Address 305 Frankston Dandenong Rd, Dandenong South, VIC, 3175, AUSTRALIA
Telephone (03) 9768 3860
Email sales@duboischchemicals.com.au
Website <http://duboischchemicals.com.au/>

1.4 Emergency telephone numbers

Emergency 13 11 26 (Poisons Information Centre)

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

CLASSIFIED AS HAZARDOUS ACCORDING TO SAFE WORK AUSTRALIA CRITERIA

Physical Hazards

Corrosive to Metals: Category 1

Health Hazards

Acute Toxicity: Oral: Category 4
Skin Corrosion/Irritation: Category 1A
Serious Eye Damage / Eye Irritation: Category 1

Environmental Hazards

Not classified as an Environmental Hazard

2.2 GHS Label elements

Signal word DANGER

Pictograms**Hazard statements**

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H318 Causes serious eye damage.

PRODUCT NAME STAINLESS STEEL PICKLING SOLUTION

Prevention statements

| | |
|------|---|
| P234 | Keep only in original packaging. |
| P260 | Do not breathe dust/fume/gas/mist/vapours/spray. |
| P264 | Wash thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection/hearing protection. |

Response statements

| | |
|--------------------|--|
| 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/shower. |
| P304 + P340 | IF INHALED: Remove person to fresh air and keep 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 CENTRE or doctor/physician. |
| P321 | Specific treatment is advised - see first aid instructions. |
| P363 | Wash contaminated clothing before reuse. |
| P390 | Absorb spillage to prevent material damage. |

Storage statements

| | |
|------|--|
| P405 | Store locked up. |
| P406 | Store in corrosive resistant container with a resistant inner liner. |

Disposal statements

| | |
|------|--|
| P501 | Dispose of contents/container in accordance with relevant regulations. |
|------|--|

2.3 Other hazards

No information provided.

3. COMPOSITION/ INFORMATION ON INGREDIENTS

3.1 Substances / Mixtures

| Ingredient | CAS Number | EC Number | Content (w/w) |
|--|---------------|---------------|---------------|
| NITRIC ACID | 7697-37-2 | 231-714-2 | 50% |
| AMMONIUM HYDROGEN DIFLUORIDE (AMMONIUM BIFLUORIDE) | 1341-49-7 | 215-676-4 | 10% |
| SULPHURIC ACID | 7664-93-9 | 231-639-5 | 10% |
| NON HAZARDOUS INGREDIENTS | Not Available | Not Available | Remainder |

4. FIRST AID MEASURES

4.1 Description of first aid measures

| | |
|-----------------------------|--|
| Eye | If in eyes, hold eyelids apart and flush continuously with running water. Continue flushing until advised to stop by a Poisons Information Centre, a doctor, or for at least 15 minutes. |
| Inhalation | If inhaled, remove from contaminated area. To protect rescuer, use a Full-face Type B (Inorganic and acid gas) respirator or an Air-line respirator (in poorly ventilated areas). Apply artificial respiration if not breathing. |
| Skin | If skin or hair contact occurs, remove contaminated clothing and flush skin and hair with running water. Continue flushing with water until advised to stop by a Poisons Information Centre or a doctor. |
| Ingestion | For advice, contact a Poisons Information Centre on 13 11 26 (Australia Wide) or a doctor (at once). If swallowed, do not induce vomiting. |
| First aid facilities | Eye wash facilities and safety shower should be available. Calcium gluconate gel should be readily available wherever the product is used or stored. |

4.2 Most important symptoms and effects, both acute and delayed

Causes severe skin burns and eye damage.

4.3 Immediate medical attention and special treatment needed

Treat symptomatically and as for exposure to acidic substances. Delayed pulmonary oedema may occur.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

PRODUCT NAME STAINLESS STEEL PICKLING SOLUTION

5.2 Special hazards arising from the substance or mixture

Non flammable. May evolve toxic gases (nitrogen oxides) when heated to decomposition. May ignite combustible materials. May evolve sulphur oxides and hydrogen fluoride when heated to decomposition.

5.3 Advice for firefighters

Evacuate area and contact emergency services. Toxic gases may be evolved in a fire situation. Remain upwind and notify those downwind of hazard. Wear full protective equipment including Self Contained Breathing Apparatus (SCBA) when combating fire. Use waterfog to cool intact containers and nearby storage areas.

5.4 Hazchem code

2X
2 Fine Water Spray.
X Wear liquid-tight chemical protective clothing and breathing apparatus. Contain spill and run-off.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear Personal Protective Equipment (PPE) as detailed in section 8 of the SDS. Clear area of all unprotected personnel. Ventilate area where possible. Contact emergency services where appropriate.

6.2 Environmental precautions

Prevent product from entering drains and waterways.

6.3 Methods of cleaning up

Contain spillage, then cover / absorb spill with sodium bicarbonate or 50-50 mixture of sodium carbonate and calcium hydroxide. Collect for complete neutralisation and appropriate disposal.

6.4 Reference to other sections

See Sections 8 and 13 for exposure controls and disposal.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Before use carefully read the product label. Use of safe work practices are recommended to avoid eye or skin contact and inhalation. Observe good personal hygiene, including washing hands before eating. Prohibit eating, drinking and smoking in contaminated areas.

7.2 Conditions for safe storage, including any incompatibilities

Store in a cool, dry, well ventilated area, removed from incompatible substances, heat or ignition sources and foodstuffs. Ensure containers are adequately labelled, protected from physical damage and sealed when not in use. Check regularly for leaks or spills. Large storage areas should be bunded and have appropriate fire protection and ventilation systems.

7.3 Specific end uses

No information provided.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Exposure standards

| Ingredient | Reference | TWA | | STEL | |
|-----------------|----------------|-----|-------------------|------|-------------------|
| | | ppm | mg/m ³ | ppm | mg/m ³ |
| Fluorides, as F | SWA [AUS] | -- | 2.5 | -- | -- |
| Nitric acid | SWA [AUS] | 2 | 5.2 | 4 | 10 |
| Nitric acid | SWA [Proposed] | 2 | 5.2 | -- | -- |
| Sulphuric acid | SWA [AUS] | -- | 1 | -- | 3 |
| Sulphuric acid | SWA [Proposed] | -- | 0.1 | -- | -- |

PRODUCT NAME STAINLESS STEEL PICKLING SOLUTION

Biological limits

| Ingredient | Determinant | Sampling Time | BEI |
|---|-------------------|----------------|--------|
| AMMONIUM HYDROGEN DIFLUORIDE (AMMONIUM BIFLUORIDE) | Fluoride in urine | Prior to shift | 2 mg/L |
| | Fluoride in urine | End of shift | 3 mg/L |

Reference: ACGIH Biological Exposure Indices

8.2 Exposure controls

Engineering controls Avoid inhalation. Use in well ventilated areas. Where an inhalation risk exists, mechanical extraction ventilation is recommended. Maintain mist / vapour levels below the recommended exposure standard.

PPE

- Eye / Face** Wear a faceshield and splash-proof goggles.
- Hands** Wear PVC or rubber gloves.
- Body** Wear coveralls. When using large quantities or where heavy contamination is likely, wear rubber boots and a PVC apron.
- Respiratory** Where an inhalation risk exists, wear an Air-line respirator or a Type B (acid gas and vapours) respirator.



9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

| | |
|---------------------------|-------------------|
| Appearance | DARK GREEN LIQUID |
| Odour | SHARP ODOUR |
| Flammability | NON FLAMMABLE |
| Flash point | NOT RELEVANT |
| Boiling point | NOT AVAILABLE |
| Melting point | NOT AVAILABLE |
| Evaporation rate | NOT AVAILABLE |
| pH | < 1 |
| Vapour density | NOT AVAILABLE |
| Relative density | 1.38 |
| Solubility (water) | SOLUBLE |
| Vapour pressure | NOT AVAILABLE |
| Upper explosion limit | NOT RELEVANT |
| Lower explosion limit | NOT RELEVANT |
| Partition coefficient | NOT AVAILABLE |
| Autoignition temperature | NOT AVAILABLE |
| Decomposition temperature | NOT AVAILABLE |
| Viscosity | NOT AVAILABLE |
| Explosive properties | NOT AVAILABLE |
| Oxidising properties | NOT AVAILABLE |
| Odour threshold | NOT AVAILABLE |

10. STABILITY AND REACTIVITY

10.1 Reactivity

May be corrosive to metals.

10.2 Chemical stability

Stable under recommended conditions of storage.

10.3 Possibility of hazardous reactions

Polymerization is not expected to occur.

PRODUCT NAME STAINLESS STEEL PICKLING SOLUTION

10.4 Conditions to avoid

Avoid heat, sparks, open flames and other ignition sources.

10.5 Incompatible materials

Incompatible with oxidising agents (e.g. hypochlorites), alkalis (e.g. sodium hydroxide), metals, heat and ignition sources.

10.6 Hazardous decomposition products

May evolve toxic gases (nitrogen oxides) when heated to decomposition.

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity Ingestion may result in severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.

Information available for the ingredients:

| Ingredient | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|------------------|-------------|---|
| NITRIC ACID | -- | -- | 2.65 mg/l (Vapours) |
| AMMONIUM HYDROGEN DIFLUORIDE (AMMONIUM BIFLUORIDE) | 130 mg/kg (rat) | -- | -- |
| SULPHURIC ACID | 2140 mg/kg (rat) | -- | 18 mg/m ³ (guinea pig); 510 mg/m ³ /2hrs (rat) |

Skin Causes severe burns. Contact may result in irritation, redness, pain, rash, dermatitis and severe burns.

Eye Causes severe burns. Contact may result in irritation, lacrimation, pain, redness and corneal burns with possible serious eye damage.

Sensitisation Not classified as causing skin or respiratory sensitisation.

Mutagenicity Insufficient data available to classify as a mutagen.

Carcinogenicity Insufficient data available to classify as a carcinogen.

Reproductive Insufficient data available to classify as a reproductive toxin.

STOT - single exposure Over exposure may result in irritation of the nose and throat, coughing and bronchitis. High level exposure may result in ulceration of the respiratory tract, lung tissue damage, chemical pneumonitis and pulmonary oedema. Effects may be delayed.

STOT - repeated exposure Not classified as causing organ damage from repeated exposure. Adverse effects are generally associated with single exposure.

Aspiration Not expected to present an aspiration hazard.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Nitric acid may be harmful to aquatic life in low concentrations.

12.2 Persistence and degradability

Nitric acid is not expected to persist in the environment.

12.3 Bioaccumulative potential

Nitric acid does not build up in plant or animal tissues largely because of its highly reactive properties.

12.4 Mobility in soil

SOIL: Nitric acid will dissolve the carbonate based materials in the soil. WATER: A significant amount will reach the water table where dilution and dispersion serve to reduce the acid concentration. The elevated nitrate levels stimulates aquatic plant growth.

12.5 Other adverse effects

Avoid contaminating waterways.

13. DISPOSAL CONSIDERATIONS

PRODUCT NAME STAINLESS STEEL PICKLING SOLUTION

13.1 Waste treatment methods

| | |
|-----------------------|--|
| Waste disposal | For small amounts (as determined by risk assessment or similar): Wearing the protective equipment detailed above, neutralise to pH 6-8 by SLOW addition to a saturated sodium bicarbonate solution or similar basic solution. Dilute with excess water and flush to drain. Waste disposal should only be undertaken in a well ventilated area. For larger amounts: Dispose in accordance with local regulations. |
| Legislation | Dispose of in accordance with relevant local legislation. |

14. TRANSPORT INFORMATION

CLASSIFIED AS A DANGEROUS GOOD BY THE CRITERIA OF THE ADG CODE



| | LAND TRANSPORT (ADG) | SEA TRANSPORT (IMDG / IMO) | AIR TRANSPORT (IATA / ICAO) |
|------------------------------------|---|---|---|
| 14.1 UN Number | 3264 | 3264 | 3264 |
| 14.2 Proper Shipping Name | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains nitric acid, sulphuric acid, ammonium bifluoride) | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains nitric acid, sulphuric acid, ammonium bifluoride) | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains nitric acid, sulphuric acid, ammonium bifluoride) |
| 14.3 Transport hazard class | 8 | 8 | 8 |
| 14.4 Packing Group | II | II | II |

14.5 Environmental hazards

Not a Marine Pollutant.

14.6 Special precautions for user

| | |
|---------------------|----------|
| Hazchem code | 2X |
| EmS | F-A, S-B |

15. REGULATORY INFORMATION

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

| | |
|---------------------------|--|
| Poison schedule | Classified as a Schedule 7 (S7) Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP). |
| Classifications | Safe Work Australia criteria is based on the Globally Harmonised System (GHS) of Classification and Labelling of Chemicals (GHS Revision 7). |
| Inventory listings | AUSTRALIA: AIIC (Australian Inventory of Industrial Chemicals) All components are listed on AIIC, or are exempt. |

16. OTHER INFORMATION

| | |
|-------------------------------|---|
| Additional information | <p>ACIDS: When mixing acids with water (diluting), caution must be taken as heat will be generated which causes violent spattering. Always add a small volume of acid to a large volume of water, NEVER the reverse.</p> <p>RESPIRATORS: In general the use of respirators should be limited and engineering controls employed to avoid exposure. If respiratory equipment must be worn ensure correct respirator selection and training is undertaken. Remember that some respirators may be extremely uncomfortable when used for long periods. The use of air powered or air supplied respirators should be considered where prolonged or repeated use is necessary.</p> |
|-------------------------------|---|

PRODUCT NAME STAINLESS STEEL PICKLING SOLUTION

PERSONAL PROTECTIVE EQUIPMENT GUIDELINES:

The recommendation for protective equipment contained within this report is provided as a guide only. Factors such as form of product, method of application, working environment, quantity used, product concentration and the availability of engineering controls should be considered before final selection of personal protective equipment is made.

HEALTH EFFECTS FROM EXPOSURE:

It should be noted that the effects from exposure to this product will depend on several factors including: form of product; frequency and duration of use; quantity used; effectiveness of control measures; protective equipment used and method of application. Given that it is impractical to prepare a report which would encompass all possible scenarios, it is anticipated that users will assess the risks and apply control methods where appropriate.

Abbreviations

| | |
|-------------------|---|
| ACGIH | American Conference of Governmental Industrial Hygienists |
| CAS # | Chemical Abstract Service number - used to uniquely identify chemical compounds |
| CNS | Central Nervous System |
| EC No. | EC No - European Community Number |
| EMS | Emergency Schedules (Emergency Procedures for Ships Carrying Dangerous Goods) |
| GHS | Globally Harmonized System |
| GTEPG | Group Text Emergency Procedure Guide |
| IARC | International Agency for Research on Cancer |
| LC50 | Lethal Concentration, 50% / Median Lethal Concentration |
| LD50 | Lethal Dose, 50% / Median Lethal Dose |
| mg/m ³ | Milligrams per Cubic Metre |
| OEL | Occupational Exposure Limit |
| pH | relates to hydrogen ion concentration using a scale of 0 (high acidic) to 14 (highly alkaline). |
| ppm | Parts Per Million |
| STEL | Short-Term Exposure Limit |
| STOT-RE | Specific target organ toxicity (repeated exposure) |
| STOT-SE | Specific target organ toxicity (single exposure) |
| SUSMP | Standard for the Uniform Scheduling of Medicines and Poisons |
| SWA | Safe Work Australia |
| TLV | Threshold Limit Value |
| TWA | Time Weighted Average |

Report status

This document has been compiled by RMT on behalf of the manufacturer, importer or supplier of the product and serves as their Safety Data Sheet ('SDS').

It is based on information concerning the product which has been provided to RMT by the manufacturer, importer or supplier or obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer, importer or supplier.

While RMT has taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, RMT accepts no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS.

Prepared by

Risk Management Technologies
5 Ventnor Ave, West Perth
Western Australia 6005
Phone: +61 8 9322 1711
Fax: +61 8 9322 1794
Email: info@rmt.com.au
Web: www.rmtglobal.com

[End of SDS]