

## HIP (Cleaning Solution with Instrument Protection)

### SciCan Ltd

Version No: 1.2

Safety Data Sheet according to OSHA HazCom Standard (2024) and WHIMS 2022 requirements

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S.GHS.USA.CAN.EN

## SECTION 1 Identification

### Product Identifier

|                                      |  |
|--------------------------------------|--|
| <b>Product name</b>                  | HIP (Cleaning Solution with Instrument Protection) |
| <b>Synonyms</b>                      | Not Available                                      |
| <b>Other means of identification</b> | Not Available                                      |

### Recommended use of the chemical and restrictions on use

|                                 |   |
|---------------------------------|---|
| <b>Relevant identified uses</b> | Cleaning Solution with Instrument Protection for HYDRIM L110 / M2 |
|---------------------------------|---|

### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

|                                |  |
|--------------------------------|--|
| <b>Registered company name</b> | SciCan Ltd.  |
| <b>Address</b>                 | 1440 Don Mills Road Toronto Ontario M3B 3P9 Canada                         |
| <b>Telephone</b>               | +1 416 445 1600  |
| <b>Fax</b>                     | +1 416 445 2727  |
| <b>Website</b>                 | <a href="https://www.scican.com/">https://www.scican.com/</a>              |
| <b>Email</b>                   | <a href="mailto:customerservice@scican.com">customerservice@scican.com</a> |

### Emergency phone number


|  |                |
|--|----------------|
| <b>Association / Organization</b>        | InfoTrac       |
| <b>Emergency telephone numbers</b>       | 1-800-535-5053 |
| <b>Other emergency telephone numbers</b> | Not Available  |

## SECTION 2 Hazard(s) identification

### Classification of the substance or mixture

|                       |  |
|-----------------------|--|
| <b>Classification</b> | Skin Corrosion/Irritation Category 2; Serious Eye Damage/Eye Irritation Category 2, Acute toxicity (oral) Category 4 |
|-----------------------|--|

### Label elements

|                            |   |
|----------------------------|---|
| <b>Hazard pictogram(s)</b> |  |
|----------------------------|---|

|                    |         |
|--------------------|---------|
| <b>Signal word</b> | Warning |
|--------------------|---------|

## HIP (Cleaning Solution with Instrument Protection)

### Hazard statement(s)

|             |                                |
|-------------|--------------------------------|
| <b>H302</b> | Harmful if swallowed.          |
| <b>H315</b> | Causes skin irritation.        |
| <b>H319</b> | Causes serious eye irritation. |

### Hazard(s) not otherwise classified

Not Applicable

### Precautionary statement(s) Prevention

|             |   |
|-------------|---|
| <b>P264</b> | Wash hands thoroughly after handling.               |
| <b>P270</b> | Do not eat, drink or smoke when using this product. |
| <b>P280</b> | Wear protective gloves/eye protection.              |

### Precautionary statement(s) Response

|                        |  |
|------------------------|--|
| <b>P301+P312</b>       | IF SWALLOWED: call a POISON CENTER or doctor/physician if you feel unwell.   |
| <b>P330</b>            | Rinse mouth.   |
| <b>P302+P352</b>       | IF ON SKIN: Wash with plenty of soap and water.  |
| <b>P332+P313</b>       | If skin irritation occurs: Get medical advice/attention.   |
| <b>P305+P351+ P338</b> | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| <b>P337+P313</b>       | If eye irritation persists: Get medical advice/attention.  |
| <b>P362</b>            | Take off contaminated clothing and wash before reuse.  |

### Precautionary statement(s) Storage

Not applicable

### Precautionary statement(s) Disposal

|             |   |
|-------------|---|
| <b>P501</b> | Dispose of contents/container in accordance with local or regional regulations. |
|-------------|---|

## SECTION 3 Composition / information on ingredients

### Substances

See section below for composition of Mixtures

### Mixtures

| CAS No     | %[weight] | Name  |
|------------|-----------|---|
| 14860-53-8 | 5-10      | <u>tetrapotassium 1-hydroxyethylidene diphosphonate</u> |
| 1300-72-7  | 5-10      | <u>sodium xylenesulfonate</u>                           |
| 2687-94-7  | 1-5       | <u>1-octyl-2-pyrrolidone</u>                            |
| 68439-51-0 | <3        | <u>alcohols C12-14 ethoxylated propoxylated</u>         |

## SECTION 4 First aid measures

### Description of first aid measures

|                    |   |
|--------------------|---|
| <b>Eye Contact</b> | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Seek medical attention if irritation develops or persists.</li> </ul> |
|--------------------|---|

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|                     |   |
|---------------------|---|
| <b>Skin Contact</b> | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Wash skin and hair with running water.</li> </ul>   |
| <b>Inhalation</b>   | <ul style="list-style-type: none"> <li>▶ No specific first aid measures are required.</li> </ul>  |
| <b>Ingestion</b>    | <ul style="list-style-type: none"> <li>▶ For advice, contact a Poisons Information Centre or a doctor at once.</li> <li>▶ If swallowed do <b>NOT</b> induce vomiting.</li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> </ul> |

#### Most important symptoms and effects, both acute and delayed

See Section 11

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

Treat symptomatically.

### SECTION 5 Fire-fighting measures

#### Extinguishing media

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

#### Special hazards arising from the substrate or mixture

|                             |             |
|-----------------------------|-------------|
| <b>Fire Incompatibility</b> | None known. |
|-----------------------------|-------------|

#### Special protective equipment and precautions for fire-fighters

|                              |  |
|------------------------------|--|
| <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>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ Use water delivered as a fine spray to control fire and cool adjacent area.</li> <li>▶ Avoid spraying water onto liquid pools.</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> </ul> |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Combustible.</li> <li>▶ Slight fire hazard when exposed to heat or flame.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ On combustion, may emit irritating/ toxic fumes.</li> <li>▶ May emit acrid smoke.</li> <li>▶ Mists containing combustible materials may be explosive.</li> </ul> <p>May emit poisonous fumes.<br/>May emit corrosive fumes.</p>  |

### SECTION 6 Accidental release measures

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

See section 8

## HIP (Cleaning Solution with Instrument Protection)

### Environmental precautions

See section 12

### Methods and material for containment and cleaning up

|                     |   |
|---------------------|---|
| <b>Minor Spills</b> | <ul style="list-style-type: none"> <li>▶ Remove all ignition sources.</li> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Control personal contact with the substance, by using protective equipment.</li> <li>▶ Contain and absorb spill with sand, earth, inert material or vermiculite.</li> <li>▶ Wipe up.</li> </ul>   |
| <b>Major Spills</b> | <p>Moderate hazard.</p> <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 breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ No smoking, naked lights or ignition sources.</li> <li>▶ Increase ventilation.</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>▶ Absorb remaining product with sand, earth or vermiculite.</li> <li>▶ Collect solid residues and seal in labelled drums for disposal.</li> <li>▶ Wash area and prevent runoff into drains.</li> <li>▶ If contamination of drains or waterways occurs, advise emergency services.</li> </ul> |

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>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> <li>▶ Avoid smoking, naked lights or ignition sources.</li> <li>▶ Avoid contact with incompatible materials.</li> <li>▶ When handling, <b>DO NOT</b> eat, drink or smoke.</li> <li>▶ Keep containers securely sealed when not in use.</li> <li>▶ Avoid physical damage to containers.</li> <li>▶ Always wash hands with soap and water after handling.</li> <li>▶ Work clothes should be laundered separately.</li> <li>▶ Use good occupational work practice.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.</li> <li>▶ <b>DO NOT</b> allow clothing wet with material to stay in contact with skin</li> </ul> |
| <b>Other information</b> | <ul style="list-style-type: none"> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ No smoking, naked lights or ignition sources.</li> <li>▶ Store in a cool, dry, well-ventilated area.</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>  |

## HIP (Cleaning Solution with Instrument Protection)

### Conditions for safe storage, including any incompatibilities

|                                |   |
|--------------------------------|---|
| <b>Suitable container</b>      | <ul style="list-style-type: none"> <li>▶ Packaging as recommended by manufacturer.</li> <li>▶ Check all containers are clearly labelled and free from leaks.</li> </ul> |
| <b>Storage incompatibility</b> | None known  |

## SECTION 8 Exposure controls / personal protection

### Control parameters

#### Occupational Exposure Limits (OEL)

#### INGREDIENT DATA

#### Emergency Limits

| Ingredient                                       | Original IDLH | Revised IDLH  |
|--|---------------|---------------|
| tetrapotassium 1-hydroxyethylidene diphosphonate | Not Available | Not Available |
| sodium xylenesulfonate                           | Not Available | Not Available |
| 1-octyl-2-pyrrolidone                            | Not Available | Not Available |
| alcohols C12-14 ethoxylated propoxylated         | Not Available | Not Available |

#### Occupational Exposure Banding

| Ingredient                                       | Occupational Exposure Band Rating | Occupational Exposure Band Limit    |
|--|-----------------------------------|-------------------------------------|
| tetrapotassium 1-hydroxyethylidene diphosphonate | E                                 | ≤ 0.01 mg/m <sup>3</sup>            |
| sodium xylenesulfonate                           | E                                 | ≤ 0.01 mg/m <sup>3</sup>            |
| 1-octyl-2-pyrrolidone                            | C                                 | > 1 to ≤ 10 parts per million (ppm) |
| alcohols C12-14 ethoxylated propoxylated         | E                                 | ≤ 0.1 ppm                           |

#### Notes:

*Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.*

### Exposure controls

|  |   |
|--|---|
| <b>8.2.1. Appropriate engineering controls</b> | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.</p> <p>The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard 'physically' away from the worker and ventilation that strategically 'adds' and 'removes' air in the work environment. 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 special circumstances. If risk of overexposure exists, wear approved respirator. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. Provide adequate ventilation in warehouses and enclosed 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> |
|--|---|

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| Type of Contaminant:  | Air Speed:                      |
|---|---------------------------------|
| solvent, vapours, degreasing etc., evaporating from tank (in still air).  | 0.25-0.5 m/s<br>(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<br>(500-2000 f/min.) |

Within each range the appropriate value depends on:

| Lower end of the range                                     | Upper end of the range           |
|--|----------------------------------|
| 1: Room air currents minimal or favourable to capture      | 1: Disturbing room air currents  |
| 2: Contaminants of low toxicity or of nuisance value only. | 2: Contaminants of high toxicity |
| 3: Intermittent, low production.                           | 3: High production, heavy use    |
| 4: Large hood or large air mass in motion                  | 4: Small hood-local control only |

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.

#### 8.2.2. Individual protection measures, such as personal protective equipment



#### Eye and face protection

- ▶ Chemical goggles.
- ▶ 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].

#### Skin protection

See Hand protection below

#### Hands/feet protection

- ▶ Wear chemical protective gloves, e.g. PVC.

#### Body protection

- ▶ Not normally required.

#### Other protection

- ▶ Eye wash unit.

### Respiratory protection

Not normally required.

## SECTION 9 Physical and chemical properties

### Information on basic physical and chemical properties

|  |               |  |               |
|--|---------------|--|---------------|
| <b>Colour</b>                              | Colourless    | <b>Particle characteristics</b>                | Not Available |
| <b>Physical state</b>                      | Liquid        | <b>Relative density (Water = 1)</b>            | 1.113         |
| <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>                    | 9.3-9.8       | <b>Decomposition temperature (°C)</b>          | Not Available |
| <b>Melting point / freezing point (°C)</b> | Not Available | <b>Viscosity (cSt)</b>                         | Not Available |

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|   |                |   |               |
|---|----------------|---|---------------|
| <b>Initial boiling point and boiling range (°C)</b> | Not Available  | <b>Molecular weight (g/mol)</b>         | Not Available |
| <b>Flash point (°C)</b>                             | >93.3          | <b>Taste</b>                            | Not Available |
| <b>Evaporation rate</b>                             | Not Available  | <b>Explosive properties</b>             | Not Available |
| <b>Flammability</b>                                 | Not Applicable | <b>Oxidizing properties</b>             | Not Available |
| <b>Upper Explosive Limit (%)</b>                    | Not Available  | <b>Surface Tension (dyn/cm or mN/m)</b> | Not Available |
| <b>Lower Explosive Limit (%)</b>                    | Not Available  | <b>Volatile Component (%vol)</b>        | Not Available |
| <b>Vapour pressure (kPa)</b>                        | Not Available  | <b>Gas group</b>                        | Not Available |
| <b>Solubility in water</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>                 | <ul style="list-style-type: none"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerization will not occur.</li> </ul> |
| <b>Possibility of hazardous reactions</b> | See section 7  |
| <b>Conditions to avoid</b>                | See section 7  |
| <b>Incompatible materials</b>             | See section 7  |
| <b>Hazardous decomposition products</b>   | See section 5  |

### SECTION 11 Toxicological information

#### Information on toxicological effects

|                     |   |
|---------------------|---|
| <b>Inhaled</b>      | The material is not thought to produce adverse health effects following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.   |
| <b>Ingestion</b>    | The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion. Accidental ingestion of the material may be damaging to the health of the individual. Ingestion of anionic surfactants may produce diarrhea, bloated stomach, and occasional vomiting.   |
| <b>Skin Contact</b> | <p>Skin contact is not thought to have harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.</p> <p>Anionic surfactants can cause skin redness and pain, as well as a rash. Cracking, scaling and blistering can occur.</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> |
| <b>Eye</b>          | <p>The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating. If applied to the eyes, this material causes severe eye damage.</p> <p>Direct eye contact with some anionic surfactants in high concentration can cause severe damage to the cornea. Low concentrations can cause discomfort, excess blood flow, and corneal clouding and swelling. Recovery may take several days.</p>   |
| <b>Chronic</b>      | <p>Repeated or prolonged exposure to corrosives 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.</p> <p>Although the salt of the organophosphate has not been tested, animal testing on the free acid aminotris(methylenephosphonic) acid revealed loss in body weight and changes in the weight of the liver, spleen and kidney.</p>  |

## HIP (Cleaning Solution with Instrument Protection)

|  |  |  |
|--|--|--|
| HIP (Cleaning Solution with Instrument Protection) | <b>TOXICITY</b>                                  | <b>IRRITATION</b>  |
|  | Inhalation LC50: > 20 mg/L                       | Not available  |
|  | Oral LD50: >500 mg/kg                            | Not available  |
|  | Dermal LD50: >5000 mg/kg                         | Not available  |
| tetrapotassium 1-hydroxyethylidene diphosphonate   | <b>TOXICITY</b>                                  | <b>IRRITATION</b>  |
|  | Oral (Rat) LD50: 520 mg/kg <sup>[2]</sup>        | Not Available  |
| sodium xylenesulfonate                             | <b>TOXICITY</b>                                  | <b>IRRITATION</b>  |
|  | Oral (Rat) LD50: >10 mg/kg <sup>[2]</sup>        | Eye: adverse effect observed (irritating) <sup>[1]</sup>         |
|  |  | Skin: no adverse effect observed (not irritating) <sup>[1]</sup> |
| 1-octyl-2-pyrrolidone                              | <b>TOXICITY</b>                                  | <b>IRRITATION</b>  |
|  | Dermal (rabbit) LD50: >2000 mg/kg <sup>[1]</sup> | Eye: adverse effect observed (irritating) <sup>[1]</sup>         |
|  | Oral (Rat) LD50: 2050 mg/kg <sup>[1]</sup>       | Skin: adverse effect observed (corrosive) <sup>[1]</sup>         |
| alcohols C12-14 ethoxylated propoxylated           | <b>TOXICITY</b>                                  | <b>IRRITATION</b>  |
|  | Dermal (rabbit) LD50: 2290 mg/kg <sup>*[2]</sup> | Not Available  |
|  | Oral (Rat) LD50: 3530 mg/kg <sup>*[2]</sup>      |  |

**Legend:**

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

|  |  |
|--|--|
| tetrapotassium 1-hydroxyethylidene diphosphonate | <p>For ATMP (aminotris(methylenephosphonic acid)) and its salts:<br/>ATMP acid, the monosodium salt and hexasodium salts cause serious eye irritation, while the disodium to pentasodium salts do not cause eye irritation. The low pH would predict that ATMP acid should be severely irritant or corrosive to skin as well as eyes.<br/>Acute toxicity: In animals, ATMP has low acute toxicity.<br/>Sensitization: Based on animal data and human exposure reports, ATMP is not classified with respect to skin sensitization.<br/>Toxicity after repeated exposure: Not classified.<br/>Genetic toxicity / mutation-causing potential: ATMP and its salts do not cause genetic toxicity or mutations.<br/>Cancer-causing potential: ATMP sodium salts and the acid are not expected to cause cancer.<br/>Reproductive toxicity: Based on animal testing, ATMP and its salts do not cause reproductive toxicity.</p>  |
|  | <p>For alkyl sulfates; alkane sulfonates and alpha-olefin sulfonates<br/>Most chemicals of this category are not defined substances, but mixtures of homologues with different alkyl side chains. Common physical and/or biological pathways result in structurally similar breakdown products, and are, together with the surfactant properties, responsible for similar environmental behavior and essentially identical hazard profiles with regard to human health.<br/>Acute toxicity: These substances are well absorbed after ingestion; penetration through the skin is however, poor. After absorption, these chemicals are distributed mainly to the liver.<br/>In animals, signs of poisoning by mouth include lethargy, hair standing up, decreased motor activity and breathing rate, and diarrhea. Poisoning from skin contact caused irritation, tremor, tonic-clonic convulsions, breathing failure, and weight loss. The C-12-alkyl sulfate sodium salt caused the greatest effect.<br/>In eye irritation tests, C-12 containing alkyl sulfates at greater than 10% concentration were severely irritating and produced irreversible effects on the cornea. With increasing alkyl chain length, the irritating potential decreases, and the longer species are only mildly irritant.<br/>Animal studies have not shown alkyl sulfates and C14-18 alpha-olefin sulfonates to cause skin sensitization. However there is anecdotal evidence to suggest sodium lauryl sulfate causes sensitization of the lung, resulting in hyperactive airway dysfunction and lung allergy, accompanied by fatigue, malaise and aching. Significant symptoms of exposure can persist for more than two years, and can be activated by a variety of non-specific environmental stimuli, such as exhaust, perfumes and passive smoking. Airborne sulfonates may be responsible for respiratory allergies, and in some cases, minor skin allergies. Repeated skin contact with some sulfonated surfactants has produced skin inflammation was sensitization in predisposed individuals.<br/>Repeat dose toxicity: The liver seems to be the only organ that is affected by repeated exposure, with elevated levels of liver enzymes, an increase in liver weight and enlargement of liver cells being seen.<br/>Genetic toxicity: Alkyl sulfates and alkyl-olefin sulfonates do not appear to cause mutations or genetic toxicity.<br/>Cancer-causing potential: Animal testing suggested that alkyl sulfates and alpha-olefin sulfonates do not have cancer-causing potential.<br/>Reproductive toxicity: In animal testing, these substances only caused harm to the fetus and/or offspring at levels which were toxic to the mother.<br/>Developmental toxicity: Alkane sulfonates are not considered to be toxic to development.<br/>Toxicological data is available and well documented for representative toluene, xylene and cumene sulfonates (including sodium, potassium, ammonium and calcium salts). These data show that hydrotropes have low toxicity for all routes, do not cause genetic damage, show no evidence of causing cancer in long-term skin studies, and have not caused birth defects, developmental defects or reduced fertility.</p> |
| sodium xylenesulfonate                           |  |

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|   |   |
|---|---|
| <b>1-OCTYL-2-PYRROLIDONE</b>                    | <p>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.</p>  |
| <b>alcohols C12-14 ethoxylated propoxylated</b> | <p>* [Henkel CCINFO 1450373]</p> <p>Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products.</p> <p>Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitizers. The oxidation products also cause irritation.</p> <p>Humans have regular contact with alcohol ethoxylates through a variety of industrial and consumer products such as soaps, detergents and other cleaning products. Exposure to these chemicals can occur through swallowing, inhalation, or contact with the skin or eyes. Studies of acute toxicity show that relatively high volumes would have to occur to produce any toxic response. No death due to poisoning with alcohol ethoxylates has ever been reported. Studies show that alcohol ethoxylates have low toxicity through swallowing and skin contact.</p> <p>Animal studies show these chemicals may produce gastrointestinal irritation, stomach ulcers, hair standing up, diarrhea and lethargy. Slight to severe irritation occurred when undiluted alcohol ethoxylates were applied to the skin and eyes of animals. These chemicals show no indication of genetic toxicity or potential to cause mutations and cancers. Toxicity is thought to be substantially lower than that of nonylphenol ethoxylates.</p> <p>Some of the oxidation products of this group of substances may have sensitizing properties.</p> <p>As they cause less irritation, nonionic surfactants are often preferred to ionic surfactants in topical products. However, their tendency to auto-oxidise also increases their irritation. Due to their irritating effect it is difficult to diagnose allergic contact.</p> |

|  |   |                                 |   |
|--|---|---------------------------------|---|
| <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 sensitization</b> | ✗ | <b>STOT - Repeated Exposure</b> | ✗ |
| <b>Mutagenicity</b>                      | ✗ | <b>Aspiration Hazard</b>        | ✗ |

**Legend:** ✗ – Data either not available or does not fill the criteria for classification  
 ✓ – Data available to make classification

## SECTION 12 Ecological information

## Toxicity

| <b>HIP (Cleaning Solution with Instrument Protection)</b> | <table border="1"> <thead> <tr> <th>Endpoint</th> <th>Test Duration (hr)</th> <th>Species</th> <th>Value</th> <th>Source</th> </tr> </thead> <tbody> <tr> <td>Not Available</td> <td>Not Available</td> <td>Not Available</td> <td>Not Available</td> <td>Not Available</td> </tr> </tbody> </table>   | Endpoint                      | Test Duration (hr) | Species       | Value | Source | Not Available | Not Available | Not Available                 | Not Available | Not Available |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
|---|--|-------------------------------|--------------------|---------------|-------|--------|---------------|---------------|-------------------------------|---------------|---------------|------|-----|-----------|-----------|---|-----------|-----|-------------------------------|----------|---|------|-----|-------------------------------|-----------|---|------|-----|-----------|----------|---|
| Endpoint  | Test Duration (hr)   | Species                       | Value              | Source        |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| Not Available   | Not Available  | Not Available                 | Not Available      | Not Available |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| <b>tetrapotassium 1-hydroxyethylidene diphosphonate</b>   | <table border="1"> <thead> <tr> <th>Endpoint</th> <th>Test Duration (hr)</th> <th>Species</th> <th>Value</th> <th>Source</th> </tr> </thead> <tbody> <tr> <td>Not Available</td> <td>Not Available</td> <td>Not Available</td> <td>Not Available</td> <td>Not Available</td> </tr> </tbody> </table>   | Endpoint                      | Test Duration (hr) | Species       | Value | Source | Not Available | Not Available | Not Available                 | Not Available | Not Available |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| Endpoint  | Test Duration (hr)   | Species                       | Value              | Source        |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| Not Available   | Not Available  | Not Available                 | Not Available      | Not Available |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| <b>sodium xylenesulfonate</b>                             | <table border="1"> <thead> <tr> <th>Endpoint</th> <th>Test Duration (hr)</th> <th>Species</th> <th>Value</th> <th>Source</th> </tr> </thead> <tbody> <tr> <td>EC50</td> <td>72h</td> <td>Algae or other aquatic plants</td> <td>~252mg/l</td> <td>2</td> </tr> <tr> <td>EC50</td> <td>48h</td> <td>Crustacea</td> <td>&gt;400mg/l</td> <td>1</td> </tr> <tr> <td>NOEC(ECx)</td> <td>72h</td> <td>Algae or other aquatic plants</td> <td>40mg/l</td> <td>2</td> </tr> <tr> <td>EC50</td> <td>96h</td> <td>Algae or other aquatic plants</td> <td>&gt;=230mg/l</td> <td>2</td> </tr> </tbody> </table>   | Endpoint                      | Test Duration (hr) | Species       | Value | Source | EC50          | 72h           | Algae or other aquatic plants | ~252mg/l      | 2             | EC50 | 48h | Crustacea | >400mg/l  | 1 | NOEC(ECx) | 72h | Algae or other aquatic plants | 40mg/l   | 2 | EC50 | 96h | Algae or other aquatic plants | >=230mg/l | 2 |      |     |           |          |   |
| Endpoint  | Test Duration (hr)   | Species                       | Value              | Source        |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| EC50  | 72h  | Algae or other aquatic plants | ~252mg/l           | 2             |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| EC50  | 48h  | Crustacea                     | >400mg/l           | 1             |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| NOEC(ECx)   | 72h  | Algae or other aquatic plants | 40mg/l             | 2             |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| EC50  | 96h  | Algae or other aquatic plants | >=230mg/l          | 2             |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| <b>1-octyl-2-pyrrolidone</b>                              | <table border="1"> <thead> <tr> <th>Endpoint</th> <th>Test Duration (hr)</th> <th>Species</th> <th>Value</th> <th>Source</th> </tr> </thead> <tbody> <tr> <td>NOEC(ECx)</td> <td>840h</td> <td>Fish</td> <td>0.91mg/l</td> <td>2</td> </tr> <tr> <td>LC50</td> <td>96h</td> <td>Fish</td> <td>~17.8mg/l</td> <td>2</td> </tr> <tr> <td>EC50</td> <td>72h</td> <td>Algae or other aquatic plants</td> <td>9.27mg/l</td> <td>2</td> </tr> <tr> <td>EC50</td> <td>96h</td> <td>Algae or other aquatic plants</td> <td>6.2mg/l</td> <td>2</td> </tr> <tr> <td>EC50</td> <td>48h</td> <td>Crustacea</td> <td>7.59mg/l</td> <td>2</td> </tr> </tbody> </table> | Endpoint                      | Test Duration (hr) | Species       | Value | Source | NOEC(ECx)     | 840h          | Fish                          | 0.91mg/l      | 2             | LC50 | 96h | Fish      | ~17.8mg/l | 2 | EC50      | 72h | Algae or other aquatic plants | 9.27mg/l | 2 | EC50 | 96h | Algae or other aquatic plants | 6.2mg/l   | 2 | EC50 | 48h | Crustacea | 7.59mg/l | 2 |
| Endpoint  | Test Duration (hr)   | Species                       | Value              | Source        |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| NOEC(ECx)   | 840h   | Fish                          | 0.91mg/l           | 2             |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| LC50  | 96h  | Fish                          | ~17.8mg/l          | 2             |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| EC50  | 72h  | Algae or other aquatic plants | 9.27mg/l           | 2             |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| EC50  | 96h  | Algae or other aquatic plants | 6.2mg/l            | 2             |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| EC50  | 48h  | Crustacea                     | 7.59mg/l           | 2             |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| <b>alcohols C12-14 ethoxylated propoxylated</b>           | <table border="1"> <thead> <tr> <th>Endpoint</th> <th>Test Duration (hr)</th> <th>Species</th> <th>Value</th> <th>Source</th> </tr> </thead> <tbody> <tr> <td>Not Available</td> <td>Not Available</td> <td>Not Available</td> <td>Not Available</td> <td>Not Available</td> </tr> </tbody> </table>   | Endpoint                      | Test Duration (hr) | Species       | Value | Source | Not Available | Not Available | Not Available                 | Not Available | Not Available |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| Endpoint  | Test Duration (hr)   | Species                       | Value              | Source        |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |
| Not Available   | Not Available  | Not Available                 | Not Available      | Not Available |       |        |               |               |                               |               |               |      |     |           |           |   |           |     |                               |          |   |      |     |                               |           |   |      |     |           |          |   |

**Legend:**

Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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

## HIP (Cleaning Solution with Instrument Protection)

### Persistence and degradability

| Ingredient            | Persistence: Water/Soil | Persistence: Air |
|-----------------------|-------------------------|------------------|
| 1-octyl-2-pyrrolidone | LOW                     | LOW              |

### Bioaccumulative potential

| Ingredient            | Bioaccumulation       |
|-----------------------|-----------------------|
| 1-octyl-2-pyrrolidone | LOW (LogKOW = 3.3314) |

### Mobility in soil

| Ingredient            | Mobility             |
|-----------------------|----------------------|
| 1-octyl-2-pyrrolidone | LOW (Log KOC = 1593) |

## SECTION 13 Disposal considerations

### Waste treatment methods

|                                     |   |
|-------------------------------------|---|
| <b>Product / Packaging disposal</b> | <ul style="list-style-type: none"> <li>▶ Containers may still present a chemical hazard/ danger when empty.</li> <li>▶ Return to supplier for reuse/ recycling if possible.</li> <li>▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product.</li> </ul> <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> <li>▶ Reduction</li> <li>▶ Reuse</li> <li>▶ Recycling</li> <li>▶ Disposal (if all else fails)</li> </ul> <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means.</p> <ul style="list-style-type: none"> <li>▶ Recycle containers if possible, or dispose of in an authorized landfill.</li> </ul> |
|-------------------------------------|---|

## SECTION 14 Transport information

### Labels Required

|                         |    |
|-------------------------|----|
| <b>Marine Pollutant</b> | NO |
|-------------------------|----|

**Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

**Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS**

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

Not Applicable

#### 14.7.2. Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

| Product name   | Group         |
|--|---------------|
| tetrapotassium<br>1-hydroxyethylidene<br>diphosphonate | Not Available |
| sodium xylenesulfonate                                 | Not Available |
| 1-octyl-2-pyrrolidone                                  | Not Available |
| alcohols C12-14 ethoxylated<br>propoxylated            | Not Available |

#### 14.7.3. Transport in bulk in accordance with the IGC Code

| Product name | Ship Type |
|--------------|-----------|
|--------------|-----------|

## HIP (Cleaning Solution with Instrument Protection)

|  |               |
|--|---------------|
| tetrapotassium 1-hydroxyethylidene diphosphonate | Not Available |
| sodium xylenesulfonate                           | Not Available |
| 1-octyl-2-pyrrolidone                            | Not Available |
| alcohols C12-14 ethoxylated propoxylated         | Not Available |

### SECTION 15 Regulatory information

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

##### tetrapotassium 1-hydroxyethylidene diphosphonate is found on the following regulatory lists

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Canada Non-Domestic Substances List (NDSL)

##### sodium xylenesulfonate is found on the following regulatory lists

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Canada Categorization decisions for all DSL substances

Canada Domestic Substances List (DSL)

Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS GHS

##### 1-octyl-2-pyrrolidone is found on the following regulatory lists

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Canada Domestic Substances List (DSL)

##### alcohols C12-14 ethoxylated propoxylated is found on the following regulatory lists

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Canada Categorization decisions for all DSL substances

Canada Domestic Substances List (DSL)

#### Additional Regulatory Information

Not Applicable

#### Federal Regulations

#### Superfund Amendments and Reauthorization Act of 1986 (SARA)

##### Section 311/312 hazard categories

|   |     |
|---|-----|
| Flammable (Gases, Aerosols, Liquids, or Solids) | No  |
| Gas under pressure                              | No  |
| Explosive                                       | No  |
| Self-heating                                    | No  |
| Pyrophoric (Liquid or Solid)                    | No  |
| Pyrophoric Gas                                  | No  |
| Corrosive to metal                              | No  |
| Oxidizer (Liquid, Solid or Gas)                 | No  |
| Organic Peroxide                                | No  |
| Self-reactive                                   | No  |
| In contact with water emits flammable gas       | No  |
| Combustible Dust                                | No  |
| Carcinogenicity                                 | No  |
| Acute toxicity (any route of exposure)          | Yes |
| Reproductive toxicity                           | No  |
| Skin Corrosion or Irritation                    | Yes |
| Respiratory or Skin Sensitization               | No  |

## HIP (Cleaning Solution with Instrument Protection)

|  |     |
|--|-----|
| Serious eye damage or eye irritation                         | Yes |
| Specific target organ toxicity (single or repeated exposure) | No  |
| Aspiration Hazard  | No  |
| Germ cell mutagenicity                                       | No  |
| Simple Asphyxiant  | No  |
| Hazards Not Otherwise Classified                             | No  |

### US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

### US. EPCRA Section 313 Toxic Release Inventory (TRI) (40 CFR 372)

None Reported

### Additional Federal Regulatory Information

Not Applicable

### State Regulations

#### US. California Proposition 65

None Reported

### Additional State Regulatory Information

Not Applicable

### National Inventory Status

| National Inventory                               | Status  |
|--|---|
| Australia - AIIIC / Australia Non-Industrial Use | Yes   |
| Canada - DSL                                     | No (tetrapotassium 1-hydroxyethylidene diphosphonate)   |
| Canada - NDSL                                    | No (sodium xylenesulfonate; 1-octyl-2-pyrrolidone; alcohols C12-14 ethoxylated propoxylated)  |
| China - IECSC                                    | Yes   |
| Europe - EINEC / ELINCS / NLP                    | No (alcohols C12-14 ethoxylated propoxylated)   |
| Japan - ENCS                                     | Yes   |
| Korea - KECI                                     | Yes   |
| New Zealand - NZIoC                              | Yes   |
| Philippines - PICCS                              | Yes   |
| USA - TSCA                                       | Yes   |
| Taiwan - TCSI                                    | Yes   |
| Mexico - INSQ                                    | No (tetrapotassium 1-hydroxyethylidene diphosphonate; 1-octyl-2-pyrrolidone; alcohols C12-14 ethoxylated propoxylated)  |
| Vietnam - NCI                                    | Yes   |
| Russia - FBEPH                                   | No (tetrapotassium 1-hydroxyethylidene diphosphonate)   |
| <b>Legend:</b>                                   | Yes = All CAS declared ingredients are on the inventory<br>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration. |

### SECTION 16 Other information

|               |            |
|---------------|------------|
| Revision Date | 16/12/2025 |
| Initial Date  | 09/11/2015 |

### Other information

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.

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end of SDS