

# Calcium Analysis kit vial 2- Chromogen

## Winechek

Chemwatch: 9041-18

Version No: 2.1

Safety Data Sheet according to Work Health and Safety Regulations (Hazardous Chemicals) 2023 and ADG requirements

Chemwatch Hazard Alert Code: 3

Initial Date: 07/03/2026

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Print Date: 09/21/2026

L.GHS.AUS.EN.E

## SECTION 1 Identification of the substance / mixture and of the company / undertaking

### Product Identifier

|                               |                                                                          |
|-------------------------------|--------------------------------------------------------------------------|
| Product name                  | Calcium Analysis kit vial 2- Chromogen                                   |
| Chemical Name                 | Not Applicable                                                           |
| Synonyms                      | Not Available                                                            |
| Proper shipping name          | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains hydrochloric acid) |
| Chemical formula              | Not Applicable                                                           |
| Other means of identification | Not Available                                                            |

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

|                          |                                     |
|--------------------------|-------------------------------------|
| Relevant identified uses | Use as received. Store at 4 degree. |
|--------------------------|-------------------------------------|

### Details of the manufacturer or importer of the safety data sheet

|                         |                                              |
|-------------------------|----------------------------------------------|
| Registered company name | Winechek                                     |
| Address                 | 10 Kalimna Road, Nuriootpa SA 5355 Australia |
| Telephone               | +61 8 8360 2200                              |
| Fax                     | Not Available                                |
| Website                 | Not Available                                |
| Email                   | support@winechek.com                         |

### Emergency telephone number

|                                     |                            |
|-------------------------------------|----------------------------|
| Association / Organisation          | Poisons Information Centre |
| Emergency telephone number(s)       | 13 11 26                   |
| Other emergency telephone number(s) | Not Available              |

## SECTION 2 Hazards identification

### Classification of the substance or mixture

|                               |                                                                                                                                     |
|-------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|
| Poisons Schedule              | S5                                                                                                                                  |
| Classification <sup>[1]</sup> | Corrosive to Metals Category 1, Skin Corrosion/Irritation Category 1B, Serious Eye Damage/Eye Irritation Category 1                 |
| Legend:                       | 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI |

### Label elements

|                     |                                                                                     |
|---------------------|-------------------------------------------------------------------------------------|
| Hazard pictogram(s) |  |
|---------------------|-------------------------------------------------------------------------------------|

|             |        |
|-------------|--------|
| Signal word | Danger |
|-------------|--------|

### Hazard statement(s)

|      |                                          |
|------|------------------------------------------|
| H290 | May be corrosive to metals.              |
| H314 | Causes severe skin burns and eye damage. |

### Precautionary statement(s) Prevention

|      |                                                                 |
|------|-----------------------------------------------------------------|
| P260 | Do not breathe mist/vapours/spray.                              |
| P264 | Wash all exposed external body areas thoroughly after handling. |

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|      |                                                                                  |
|------|----------------------------------------------------------------------------------|
| P280 | Wear protective gloves, protective clothing, eye protection and face protection. |
| P234 | Keep only in original packaging.                                                 |

## Precautionary statement(s) Response

|                |                                                                                                                                  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------|
| P301+P330+P331 | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.                                                                               |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].                         |
| 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/doctor/physician/first aider.                                                                   |
| P363           | Wash contaminated clothing before reuse.                                                                                         |
| P390           | Absorb spillage to prevent material damage.                                                                                      |
| P304+P340      | IF INHALED: Remove person to fresh air and keep comfortable for breathing.                                                       |

## Precautionary statement(s) Storage

|      |                  |
|------|------------------|
| P405 | Store locked up. |
|------|------------------|

## Precautionary statement(s) Disposal

|      |                                                                                                                                  |
|------|----------------------------------------------------------------------------------------------------------------------------------|
| P501 | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|------|----------------------------------------------------------------------------------------------------------------------------------|

No further product hazard information.

## SECTION 3 Composition / information on ingredients

## Substances

See section below for composition of Mixtures

## Mixtures

| CAS No         | %[weight]                                                                                                                                                                                               | Name                                       |
|----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------|
| 2411-89-4      | <1                                                                                                                                                                                                      | <u>o-cresolphthalein complexone</u>        |
| 7647-01-0      | <1                                                                                                                                                                                                      | <u>hydrochloric acid</u>                   |
| Not Available  | Balance                                                                                                                                                                                                 | Ingredients determined not to be hazardous |
| <b>Legend:</b> | <b>1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&amp;L; * EU IOELVs available</b> |                                            |

## 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>Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>Transport to hospital or doctor without delay.</li> <li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Skin Contact</b> | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>Immediately flush body and clothes with large amounts of water, using safety shower if available.</li> <li>Quickly remove all contaminated clothing, including footwear.</li> <li>Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</li> <li>Transport to hospital, or doctor.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Inhalation</b>   | <ul style="list-style-type: none"> <li>If fumes or combustion products are inhaled remove from contaminated area.</li> <li>Lay patient down. Keep warm and rested.</li> <li>Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>Transport to hospital, or doctor.</li> <li>Inhalation of vapours or aerosols (mists, fumes) may cause lung oedema.</li> <li>Corrosive substances may cause lung damage (e.g. lung oedema, fluid in the lungs).</li> <li>As this reaction may be delayed up to 24 hours after exposure, affected individuals need complete rest (preferably in semi-recumbent posture) and must be kept under medical observation even if no symptoms are (yet) manifested.</li> <li>Before any such manifestation, the administration of a spray containing a dexamethasone derivative or beclomethasone derivative may be considered.</li> </ul> <p><b>This must definitely be left to a doctor or person authorised by him/her.</b><br/>(ICSC13719)</p> |
| <b>Ingestion</b>    | <ul style="list-style-type: none"> <li>For advice, contact a Poisons Information Centre or a doctor at once.</li> <li>Urgent hospital treatment is likely to be needed.</li> <li><b>If swallowed do NOT induce vomiting.</b></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> <li>Transport to hospital or doctor without delay.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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

Treat symptomatically.

For acute or short term repeated exposures to strong acids:

- Airway problems may arise from laryngeal edema and inhalation exposure. Treat with 100% oxygen initially.
- Respiratory distress may require cricothyroidotomy if endotracheal intubation is contraindicated by excessive swelling

Continued...

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- ▶ Intravenous lines should be established immediately in all cases where there is evidence of circulatory compromise.
- ▶ Strong acids produce a coagulation necrosis characterised by formation of a coagulum (eschar) as a result of the dessicating action of the acid on proteins in specific tissues.

## INGESTION:

- ▶ Immediate dilution (milk or water) within 30 minutes post ingestion is recommended.
- ▶ **DO NOT attempt to neutralise the acid since exothermic reaction may extend the corrosive injury.**
- ▶ Be careful to avoid further vomit since re-exposure of the mucosa to the acid is harmful. Limit fluids to one or two glasses in an adult.
- ▶ Charcoal has no place in acid management.
- ▶ Some authors suggest the use of lavage within 1 hour of ingestion.

## SKIN:

- ▶ Skin lesions require copious saline irrigation. Treat chemical burns as thermal burns with non-adherent gauze and wrapping.
- ▶ Deep second-degree burns may benefit from topical silver sulfadiazine.

## EYE:

- ▶ Eye injuries require retraction of the eyelids to ensure thorough irrigation of the conjunctival cul-de-sacs. Irrigation should last at least 20-30 minutes. **DO NOT use neutralising agents or any other additives.** Several litres of saline are required.
- ▶ Cycloplegic drops, (1% cyclopentolate for short-term use or 5% homatropine for longer term use) antibiotic drops, vasoconstrictive agents or artificial tears may be indicated dependent on the severity of the injury.
- ▶ Steroid eye drops should only be administered with the approval of a consulting ophthalmologist).

[Ellenhorn and Barceloux: Medical Toxicology]

## SECTION 5 Firefighting measures

## Extinguishing media

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

## Special hazards arising from the substance or mixture

|                      |             |
|----------------------|-------------|
| Fire Incompatibility | None known. |
|----------------------|-------------|

## Advice for firefighters

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fire Fighting         | <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 fire fighting procedures suitable for surrounding area.</li> <li>▶ <b>Do not approach containers suspected to be hot.</b></li> <li>▶ Cool fire exposed containers with water spray from a protected location.</li> <li>▶ If safe to do so, remove containers from path of fire.</li> <li>▶ Equipment should be thoroughly decontaminated after use.</li> </ul> |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> <li>▶ Non combustible.</li> <li>▶ Not considered to be a significant fire risk.</li> <li>▶ Acids may react with metals to produce hydrogen, a highly flammable and explosive gas.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ May emit corrosive, poisonous fumes. May emit acid smoke.</li> </ul>                                                                                                                                                                                                                                                    |
| HAZCHEM               | 2X                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## SECTION 6 Accidental release measures

## Personal precautions, protective equipment and emergency procedures

See section 8

## Environmental precautions

See section 12

## Methods and material for containment and cleaning up

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|--------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Minor Spills | <ul style="list-style-type: none"> <li>▶ Drains for storage or use areas should have retention basins for pH adjustments and dilution of spills before discharge or disposal of material.</li> <li>▶ Check regularly for spills and leaks.</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> <li>▶ Place in a suitable, labelled container for waste disposal.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                |
| Major Spills | <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear full body protective clothing with breathing apparatus.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ Consider evacuation (or protect in place).</li> <li>▶ Stop leak if safe to do so.</li> <li>▶ Contain spill with sand, earth or vermiculite.</li> <li>▶ Collect recoverable product into labelled containers for recycling.</li> <li>▶ Neutralise/decontaminate residue (see Section 13 for specific agent).</li> <li>▶ Collect solid residues and seal in labelled drums for disposal.</li> <li>▶ Wash area and prevent runoff into drains.</li> <li>▶ After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.</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

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safe handling     | <ul style="list-style-type: none"><li>▶ <b>DO NOT</b> allow clothing wet with material to stay in contact with skin</li><li>▶ Avoid skin contact, including inhalation.</li><li>▶ Wear protective clothing when risk of exposure occurs.</li><li>▶ Use in a well-ventilated area.</li><li>▶ Avoid contact with moisture.</li><li>▶ Avoid contact with incompatible materials.</li><li>▶ <b>When handling, DO NOT eat, drink or smoke.</b></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. Launder contaminated clothing before re-use.</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 are maintained.</li></ul> |
| Other information | <ul style="list-style-type: none"><li>▶ Store in original containers.</li><li>▶ Keep containers securely sealed.</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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

Conditions for safe storage, including any incompatibilities

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable container      | <ul style="list-style-type: none"><li>▶ <b>DO NOT</b> use aluminium or galvanised containers</li><li>▶ Check regularly for spills and leaks</li><li>▶ Lined metal can, lined metal pail/ can.</li><li>▶ Plastic pail.</li><li>▶ Polyliner drum.</li><li>▶ Packing as recommended by manufacturer.</li><li>▶ Check all containers are clearly labelled and free from leaks.</li></ul> <p>For low viscosity materials</p> <ul style="list-style-type: none"><li>▶ Drums and jerricans must be of the non-removable head type.</li><li>▶ Where a can is to be used as an inner package, the can must have a screwed enclosure.</li></ul> <p>For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):</p> <ul style="list-style-type: none"><li>▶ Removable head packaging;</li><li>▶ Cans with friction closures and</li><li>▶ low pressure tubes and cartridges</li></ul> <p>may be used.</p> <p>-</p> <p>Where combination packages are used, and the inner packages are of glass, porcelain or stoneware, there must be sufficient inert cushioning material in contact with inner and outer packages unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Storage incompatibility | <ul style="list-style-type: none"><li>▶ Inorganic acids are generally soluble in water with the release of hydrogen ions. The resulting solutions have pH's of less than 7.0.</li><li>▶ Inorganic acids neutralise chemical bases (for example: amines and inorganic hydroxides) to form salts - neutralisation can generate dangerously large amounts of heat in small spaces.</li><li>▶ The dissolution of inorganic acids in water or the dilution of their concentrated solutions with additional water may generate significant heat.</li><li>▶ The addition of water to inorganic acids often generates sufficient heat in the small region of mixing to cause some of the water to boil explosively. The resulting "bumping" can spatter the acid.</li><li>▶ Inorganic acids react with active metals, including such structural metals as aluminum and iron, to release hydrogen, a flammable gas.</li><li>▶ Inorganic acids can initiate the polymerisation of certain classes of organic compounds.</li><li>▶ Inorganic acids react with cyanide compounds to release gaseous hydrogen cyanide.</li><li>▶ Inorganic acids generate flammable and/or toxic gases in contact with dithiocarbamates, isocyanates, mercaptans, nitrides, nitriles, sulfides, and strong reducing agents. Additional gas-generating reactions occur with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), and even carbonates.</li><li>▶ Acids often catalyse (increase the rate of) chemical reactions.</li></ul> <p>Hydrogen chloride:</p> <ul style="list-style-type: none"><li>▶ reacts strongly with strong oxidisers (releasing chlorine gas), acetic anhydride, caesium cyanotridecahydrodecaborate(2-), ethylidene difluoride, hexalithium disilicide, metal acetylide, sodium, silicon dioxide, tetraselenium tetranitride, and many organic materials</li><li>▶ is incompatible with alkaline materials, acetic anhydride, acetylides, aliphatic amines, alkanolamines, alkylene oxides, aluminium, aluminium-titanium alloys, aromatic amines, amines, amides, 2-aminoethanol, ammonia, ammonium hydroxide, borides, calcium phosphide, carbides, carbonates, cyanides, chlorosulfonic acid, ethylenediamine, ethyleneimine, epichlorohydrin, formaldehyde, isocyanates, metals, metal oxides, metal hydroxides, metal acetylides, metal carbides, oleum, organic anhydrides, potassium permanganate, perchloric acid, phosphides, 3-propiolactone, silicides, sulfides, sulfites, sulfuric acid, uranium phosphide, vinyl acetate, vinylidene fluoride</li><li>▶ attacks most metals forming flammable hydrogen gas, and some plastics, rubbers and coatings</li><li>▶ reacts with zinc, brass, galvanised iron, aluminium, copper and copper alloys</li></ul> <p>▶ Reacts with mild steel, galvanised steel / zinc producing hydrogen gas which may form an explosive mixture with air.</p> |

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

| Source                                                                                                                                             | Ingredient        | Material name     | TWA           | STEL          | Peak               | Notes         |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|---------------|---------------|--------------------|---------------|
| Australia Exposure Standards                                                                                                                       | hydrochloric acid | Hydrogen chloride | Not Available | Not Available | 5 ppm / 7.5 mg/m3  | Not Available |
| Australia Workplace exposure limits for airborne contaminants (WEL list) (Effective from 1 December 2026) - Appendix A - Workplace Exposure Limits | hydrochloric acid | Hydrogen chloride | Not Available | Not Available | 2 ppm / 2.98 mg/m3 | Not Available |

MATERIAL DATA

for hydrogen chloride:  
Odour Threshold Value: 0.262 ppm (detection), 10.06 ppm (recognition)  
NOTE: Detector tubes for hydrochloric acid, measuring in excess of 1 ppm, are available commercially.  
Hydrogen chloride is a strong irritant to the eyes, mucous membranes and skin. Chronic exposure produces a corrosive action on the teeth. Reports of respiratory irritation following short-term exposure at 5 ppm have lead to the recommended TLV-C. There is no indication that skin contact with hydrogen chloride elicits systemic poisoning and a skin designation has not been applied.  
Exposure of humans to hydrogen chloride at 50 to 100 ppm for 1 hour is reported to be barely tolerable; 35 ppm caused irritation of the throat on short exposure and 10 ppm was the maximal concentration for prolonged exposure. It has been stated that hydrogen chloride at concentrations of 5 ppm is immediately irritating.  
Odour Safety Factor(OSF)  
OSF=1.3 (HYDROGEN CHLORIDE)

Exposed individuals are NOT reasonably expected to be warned, by smell, that the Exposure Standard is being exceeded.

Odour Safety Factor (OSF) is determined to fall into either Class C, D or E.

The Odour Safety Factor (OSF) is defined as:

OSF= Exposure Standard (TWA) ppm/ Odour Threshold Value (OTV) ppm

| Classification into classes follows: |                                                                                                                                                                      |
|--------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Class                                | OSF Description                                                                                                                                                      |
| A                                    | 550 Over 90% of exposed individuals are aware by smell that the Exposure Standard (TLV-TWA for example) is being reached, even when distracted by working activities |
| B                                    | 26-550 As "A" for 50-90% of persons being distracted                                                                                                                 |
| C                                    | 1-26 As "A" for less than 50% of persons being distracted                                                                                                            |
| D                                    | 0.18-1 10-50% of persons aware of being tested perceive by smell that the Exposure Standard is being reached                                                         |
| E                                    | <0.18 As "D" for less than 10% of persons aware of being tested                                                                                                      |

Exposure controls

|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                  |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|
| Appropriate engineering controls                                      | <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. 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> |                                  |
|                                                                       | Type of Contaminant:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Air Speed:                       |
|                                                                       | solvent, vapours, degreasing etc., evaporating from tank (in still air).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.25-0.5 m/s (50-100 f/min)      |
|                                                                       | aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0.5-1 m/s (100-200 f/min.)       |
|                                                                       | direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | 1-2.5 m/s (200-500 f/min.)       |
| Individual protection measures, such as personal protective equipment | grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                  |
|                                                                       | 2.5-10 m/s (500-2000 f/min.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                  |
|                                                                       | 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  |
| Eye and face protection                                               | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                  |
|                                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                  |
| Skin protection                                                       | See Hand protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                  |
|                                                                       | Hands/feet protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                  |
| Hands/feet protection                                                 | Wear chemical protective gloves, e.g. PVC.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                  |

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- ▶ Wear safety footwear or safety gumboots, e.g. Rubber

- ▶ When handling corrosive liquids, wear trousers or overalls outside of boots, to avoid spills entering boots.

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- frequency and duration of contact,
- chemical resistance of glove material,
- glove thickness and
- dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.

- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.

- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.

- Contaminated gloves should be replaced.

As defined in ASTM F-739-96 in any application, gloves are rated as:

- Excellent when breakthrough time > 480 min
- Good when breakthrough time > 20 min
- Fair when breakthrough time < 20 min
- Poor when glove material degrades

For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.

Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.

- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

**Body protection** See Other protection below

**Other protection**

- ▶ Overalls.
- ▶ PVC Apron.
- ▶ PVC protective suit may be required if exposure severe.
- ▶ Eyewash unit.
- ▶ Ensure there is ready access to a safety shower.

## Recommended material(s)

## GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

**"Forsberg Clothing Performance Index".**

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

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| Material          | CPI |
|-------------------|-----|
| BUTYL             | A   |
| NEOPRENE          | A   |
| BUTYL/NEOPRENE    | C   |
| HYPALON           | C   |
| NAT+NEOPR+NITRILE | C   |
| NATURAL RUBBER    | C   |
| NATURAL+NEOPRENE  | C   |
| NEOPRENE/NATURAL  | C   |
| NITRILE           | C   |
| NITRILE+PVC       | C   |
| PE/EVAL/PE        | C   |
| PVA               | C   |
| PVC               | C   |
| SARANEX-23        | C   |
| VITON             | C   |
| VITON/NEOPRENE    | C   |

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which

## Respiratory protection

Type B-P Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

| Required minimum protection factor | Maximum gas/vapour concentration present in air p.p.m. (by volume) | Half-face Respirator | Full-Face Respirator |
|------------------------------------|--------------------------------------------------------------------|----------------------|----------------------|
| up to 10                           | 1000                                                               | B-AUS / Class1 P2    | -                    |
| up to 50                           | 1000                                                               | -                    | B-AUS / Class 1 P2   |
| up to 50                           | 5000                                                               | Airline *            | -                    |
| up to 100                          | 5000                                                               | -                    | B-2 P2               |
| up to 100                          | 10000                                                              | -                    | B-3 P2               |
| 100+                               |                                                                    |                      | Airline**            |

\* - Continuous Flow \*\* - Continuous-flow or positive pressure demand

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

76b-p()

Continued...

might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

#### Ansell Glove Selection

##### Glove — In order of recommendation

AlphaTec 02-100  
AlphaTec® 15-554  
AlphaTec® Solvex® 37-185  
AlphaTec® 38-612  
AlphaTec® 58-008  
AlphaTec® 58-530B  
AlphaTec® 58-530W  
AlphaTec® 58-735  
AlphaTec® 79-700  
AlphaTec® Solvex® 37-675

The suggested gloves for use should be confirmed with the glove supplier.

## SECTION 9 Physical and chemical properties

### Information on basic physical and chemical properties

|                                                                  |                                      |                                                                       |                |
|------------------------------------------------------------------|--------------------------------------|-----------------------------------------------------------------------|----------------|
| <b>Appearance</b>                                                | Colourless liquid; mixes with water. |                                                                       |                |
| <b>Physical state</b>                                            | Liquid                               | <b>Relative density (Water = 1)</b>                                   | Not Available  |
| <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 Applicable |
| <b>pH (as supplied)</b>                                          | 2                                    | <b>Decomposition temperature (°C)</b>                                 | Not Available  |
| <b>Melting point / freezing point (°C)</b>                       | Not Available                        | <b>Viscosity (mm<sup>2</sup>/s)</b>                                   | Not Available  |
| <b>Initial boiling point and boiling range (°C)</b>              | Not Available                        | <b>Molecular weight (g/mol)</b>                                       | Not Applicable |
| <b>Flash point (°C)</b>                                          | Not Applicable                       | <b>Taste</b>                                                          | Not Available  |
| <b>Evaporation rate</b>                                          | Not Available                        | <b>Explosive properties</b>                                           | Not Available  |
| <b>Flammability</b>                                              | Not Applicable                       | <b>Oxidising properties</b>                                           | Not Available  |
| <b>Upper Explosive Limit (%)</b>                                 | Not Applicable                       | <b>Surface Tension (dyn/cm or mN/m)</b>                               | Not Available  |
| <b>Lower Explosive Limit (%)</b>                                 | Not Applicable                       | <b>Volatile Component (%vol)</b>                                      | Not Available  |
| <b>Vapour pressure (kPa)</b>                                     | Not Available                        | <b>Gas group</b>                                                      | Not Available  |
| <b>Solubility in water</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  |
| <b>Heat of Combustion (kJ/g)</b>                                 | Not Available                        | <b>Ignition Distance (cm)</b>                                         | Not Available  |
| <b>Flame Height (cm)</b>                                         | Not Available                        | <b>Flame Duration (s)</b>                                             | Not Available  |
| <b>Enclosed Space Ignition Time Equivalent (s/m<sup>3</sup>)</b> | Not Available                        | <b>Enclosed Space Ignition Deflagration Density (g/m<sup>3</sup>)</b> | Not Available  |

## SECTION 10 Stability and reactivity

|                                           |                                                 |
|-------------------------------------------|-------------------------------------------------|
| <b>Reactivity</b>                         | See section 7                                   |
| <b>Chemical stability</b>                 | ► Contact with alkaline material liberates heat |
| <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>a) Acute Toxicity</b>                    | Based on available data, the classification criteria are not met.                       |
| <b>b) Skin Irritation/Corrosion</b>         | There is sufficient evidence to classify this material as skin corrosive or irritating. |
| <b>c) Serious Eye Damage/Irritation</b>     | There is sufficient evidence to classify this material as eye damaging or irritating    |
| <b>d) Respiratory or Skin sensitisation</b> | Based on available data, the classification criteria are not met.                       |
| <b>e) Mutagenicity</b>                      | Based on available data, the classification criteria are not met.                       |

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|                                    |                                                                   |
|------------------------------------|-------------------------------------------------------------------|
| <b>f) Carcinogenicity</b>          | Based on available data, the classification criteria are not met. |
| <b>g) Reproductivity</b>           | Based on available data, the classification criteria are not met. |
| <b>h) STOT - Single Exposure</b>   | Based on available data, the classification criteria are not met. |
| <b>i) STOT - Repeated Exposure</b> | Based on available data, the classification criteria are not met. |
| <b>j) Aspiration Hazard</b>        | Based on available data, the classification criteria are not met. |

|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|---------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhaled</b>      | <p>Not normally a hazard due to non-volatile nature of product</p> <p>Acidic corrosives produce respiratory tract irritation with coughing, choking and mucous membrane damage. Symptoms of exposure may include dizziness, headache, nausea and weakness. In more severe exposures, pulmonary oedema may be evident either immediately or after a latent period of 5-72 hours. Symptoms of pulmonary oedema include a tightness in the chest, dyspnoea, frothy sputum and cyanosis. Examination may reveal hypotension, a weak and rapid pulse and moist rates. Death, due to anoxia, may occur several hours after onset of the pulmonary oedema.</p> <p>The material has not been classified for acute toxicity via the inhalation route under Regulation (EC) No 1272/2008 (CLP), as amended. This is based on the available information, which does not meet the applicable classification criteria. Nevertheless, exposure should be kept to a minimum, and suitable control measures should be implemented in occupational settings to control vapours, fumes and aerosols.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Ingestion</b>    | <p>The material can produce chemical burns within the oral cavity and gastrointestinal tract following ingestion.</p> <p>Ingestion of acidic corrosives may produce circumoral burns with a distinct discolouration of the mucous membranes of the mouth, throat and oesophagus. Immediate pain and difficulties in swallowing and speaking may also be evident. Oedema of the epiglottis may produce respiratory distress and possibly, asphyxia. Nausea, vomiting, diarrhoea and a pronounced thirst may occur. More severe exposures may produce a vomitus containing fresh or dark blood and large shreds of mucosa. Shock, with marked hypotension, weak and rapid pulse, shallow respiration and clammy skin may be symptomatic of the exposure. Circulatory collapse may, if left untreated, result in renal failure. Severe cases may show gastric and oesophageal perforation with peritonitis, fever and abdominal rigidity. Stricture of the oesophageal, gastric and pyloric sphincter may occur as within several weeks or may be delayed for years. Death may be rapid and often results from asphyxia, circulatory collapse or aspiration of even minute amounts. Delayed deaths may be due to peritonitis, severe nephritis or pneumonia. Coma and convulsions may be terminal.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Skin Contact</b> | <p>The material can produce chemical burns following direct contact with the skin.</p> <p>Skin contact with acidic corrosives may result in pain and burns; these may be deep with distinct edges and may heal slowly with the formation of scar tissue.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Eye</b>          | <p>The material can produce chemical burns to the eye following direct contact. Vapours or mists may be extremely irritating.</p> <p>When applied to the eye(s) of animals, the material produces severe ocular lesions which are present twenty-four hours or more after instillation.</p> <p>Irritation of the eyes may produce a heavy secretion of tears (lachrymation).</p> <p>Direct eye contact with acid corrosives may produce pain, lachrymation, photophobia and burns. Mild burns of the epithelia generally recover rapidly and completely. Severe burns produce long-lasting and possible irreversible damage. The appearance of the burn may not be apparent for several weeks after the initial contact. The cornea may ultimately become deeply vascularised and opaque resulting in blindness.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>Chronic</b>      | <p>On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment.</p> <p>Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems.</p> <p>Repeated or prolonged exposure to acids may result in the erosion of teeth, inflammatory and ulcerative changes in the mouth and necrosis (rarely) of the jaw. Bronchial irritation, with cough, and frequent attacks of bronchial pneumonia may ensue. Gastrointestinal disturbances may also occur. Chronic exposures may result in dermatitis and/or conjunctivitis.</p> <p>The impact of inhaled acidic agents on the respiratory tract depends upon a number of interrelated factors. These include physicochemical characteristics, e.g., gas versus aerosol; particle size (small particles can penetrate deeper into the lung); water solubility (more soluble agents are more likely to be removed in the nose and mouth). Given the general lack of information on the particle size of aerosols involved in occupational exposures to acids, it is difficult to identify their principal deposition site within the respiratory tract. Acid mists containing particles with a diameter of up to a few micrometers will be deposited in both the upper and lower airways. They are irritating to mucous epithelia, they cause dental erosion, and they produce acute effects in the lungs (symptoms and changes in pulmonary function). Asthmatics appear to be at particular risk for pulmonary effects.</p> <p>Chronic minor exposure to hydrogen chloride (HCl) vapour or fume may cause discolouration or erosion of the teeth, bleeding of the nose and gums; and ulceration of the nasal mucous membranes.</p> <p>Repeated exposures of animals to concentrations of about 34 ppm HCl produced no immediate toxic effects.</p> <p>Workers exposed to hydrochloric acid suffered from gastritis and a number of cases of chronic bronchitis have also been reported.</p> <p>Repeated or prolonged exposure to dilute solutions of HCl may cause dermatitis.</p> |

|                                               |                                                |                                                           |
|-----------------------------------------------|------------------------------------------------|-----------------------------------------------------------|
| <b>Calcium Analysis kit vial 2- Chromogen</b> | <b>TOXICITY</b>                                | <b>IRRITATION</b>                                         |
|                                               | Not Available                                  | Not Available                                             |
| <b>o-cresolphthalein complexone</b>           | <b>TOXICITY</b>                                | <b>IRRITATION</b>                                         |
|                                               | Not Available                                  | Not Available                                             |
| <b>hydrochloric acid</b>                      | <b>TOXICITY</b>                                | <b>IRRITATION</b>                                         |
|                                               | dermal (mouse) LD50: 1449 mg/kg <sup>[2]</sup> | Eye (Rodent - rabbit): 5mg/30S - Mild                     |
|                                               | Oral (Rat) LD50: 900 mg/kg <sup>[2]</sup>      | Eye: adverse effect observed (irritating) <sup>[1]</sup>  |
|                                               |                                                | Skin (Human): 4%/24H - Mild                               |
|                                               |                                                | Skin: adverse effect observed (corrosive) <sup>[1]</sup>  |
|                                               |                                                | Skin: adverse effect observed (irritating) <sup>[1]</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

|                          |                                                                                                                                                                 |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>HYDROCHLORIC ACID</b> | The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis. |
|--------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|

Calcium Analysis kit vial 2- Chromogen

|                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                          |   |
|--------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|---|
| Calcium Analysis kit vial 2- Chromogen & O- CRESOLPHTHALEIN COMPLEXONE & HYDROCHLORIC ACID | No significant acute toxicological data identified in literature search.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                          |   |
| Calcium Analysis kit vial 2- Chromogen & HYDROCHLORIC ACID                                 | <p>for acid mists, aerosols, vapours</p> <p>Data from assays for genotoxic activity in vitro suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Mucous secretion may protect the cells of the airways from direct exposure to inhaled acidic mists, just as mucous plays an important role in protecting the gastric epithelium from its auto-secreted hydrochloric acid. In considering whether pH itself induces genotoxic events in vivo in the respiratory system, comparison should be made with the human stomach, in which gastric juice may be at pH 1-2 under fasting or nocturnal conditions, and with the human urinary bladder, in which the pH of urine can range from &lt;5 to &gt; 7 and normally averages 6.2. Furthermore, exposures to low pH in vivo differ from exposures <i>in vitro</i> in that, <i>in vivo</i>, only a portion of the cell surface is subjected to the adverse conditions, so that perturbation of intracellular homeostasis may be maintained more readily than in vitro.</p> <p>The substance is classified by IARC as Group 3:<br/><b>NOT</b> classifiable as to its carcinogenicity to humans.</p> <p>Evidence of carcinogenicity may be inadequate or limited in animal testing.</p> <p>Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.</p> |                          |   |
| Acute Toxicity                                                                             | ✗                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Carcinogenicity          | ✗ |
| Skin Irritation/Corrosion                                                                  | ✓                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Reproductivity           | ✗ |
| Serious Eye Damage/Irritation                                                              | ✓                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | STOT - Single Exposure   | ✗ |
| Respiratory or Skin sensitisation                                                          | ✗                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | STOT - Repeated Exposure | ✗ |
| Mutagenicity                                                                               | ✗                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Aspiration Hazard        | ✗ |

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

SECTION 12 Ecological information

|                                                                                                                                                                                                                                                                                                                                                       |               |                    |               |               |               |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------|---------------|---------------|---------------|
| Toxicity                                                                                                                                                                                                                                                                                                                                              |               |                    |               |               |               |
| Calcium Analysis kit vial 2- Chromogen                                                                                                                                                                                                                                                                                                                | Endpoint      | Test Duration (hr) | Species       | Value         | Source        |
|                                                                                                                                                                                                                                                                                                                                                       | Not Available | Not Available      | Not Available | Not Available | Not Available |
| o-cresolphthalein complexone                                                                                                                                                                                                                                                                                                                          | Endpoint      | Test Duration (hr) | Species       | Value         | Source        |
|                                                                                                                                                                                                                                                                                                                                                       | Not Available | Not Available      | Not Available | Not Available | Not Available |
| hydrochloric acid                                                                                                                                                                                                                                                                                                                                     | Endpoint      | Test Duration (hr) | Species       | Value         | Source        |
|                                                                                                                                                                                                                                                                                                                                                       | EC50(ECx)     | 9.33h              | Fish          | 0.51mg/L      | 4             |
|                                                                                                                                                                                                                                                                                                                                                       | LC50          | 96h                | Fish          | 334.734mg/L   | 4             |
| Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. US EPA, Ecotox database - Aquatic Toxicity Data 4. ECETOC Aquatic Hazard Assessment Data 5. NITE (Japan) - Bioconcentration Data 6. METI (Japan) - Bioconcentration Data 7. Vendor Data 8. User defined data |               |                    |               |               |               |

Harmful to aquatic organisms.

**Ecotoxicity:**

The tolerance of water organisms towards pH margin and variation is diverse. Recommended pH values for test species listed in OECD guidelines are between 6.0 and almost 9. Acute testing with fish showed 96h-LC50 at about pH 3.5

Prevent, by any means available, spillage from entering drains or water courses.

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

|                               |                         |                  |
|-------------------------------|-------------------------|------------------|
| Persistence and degradability |                         |                  |
| Ingredient                    | Persistence: Water/Soil | Persistence: Air |
| o-cresolphthalein complexone  | HIGH                    | HIGH             |
| hydrochloric acid             | LOW                     | LOW              |

|                              |                       |
|------------------------------|-----------------------|
| Bioaccumulative potential    |                       |
| Ingredient                   | Bioaccumulation       |
| o-cresolphthalein complexone | LOW (LogKOW = 0.0667) |
| hydrochloric acid            | LOW (LogKOW = 0.54)   |

|                              |                           |
|------------------------------|---------------------------|
| Mobility in soil             |                           |
| Ingredient                   | Mobility                  |
| o-cresolphthalein complexone | LOW (Log KOC = 204600000) |
| hydrochloric acid            | LOW (Log KOC = 14.3)      |

## SECTION 13 Disposal considerations

## Waste treatment methods

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Product / Packaging disposal | <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. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.</p>                                                                                                                                                                                                                                                                                     |
|                              | <ul style="list-style-type: none"> <li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>▶ It may be necessary to collect all wash water for treatment before disposal.</li> <li>▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>▶ Where in doubt contact the responsible authority.</li> <li>▶ Recycle wherever possible.</li> <li>▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.</li> <li>▶ Treat and neutralise at an approved treatment plant. Treatment should involve: Neutralisation with soda-ash or soda-lime followed by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).</li> <li>▶ Decontaminate empty containers with 5% aqueous sodium hydroxide or soda ash, followed by water. Observe all label safeguards until containers are cleaned and destroyed.</li> </ul> |

## SECTION 14 Transport information

## Labels Required

|                  |                                                                                   |
|------------------|-----------------------------------------------------------------------------------|
|                  |  |
| Marine Pollutant | NO                                                                                |
| HAZCHEM          | 2X                                                                                |

## Land transport (ADG)

|                                   |                                                                                                                        |                    |         |                   |                |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------------|--------------------|---------|-------------------|----------------|
| 14.1 UN number or ID number       | 3264                                                                                                                   |                    |         |                   |                |
| 14.2 UN proper shipping name      | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains hydrochloric acid)                                               |                    |         |                   |                |
| 14.3 Transport hazard class(es)   | <table> <tr> <td>Class</td><td>8</td></tr> <tr> <td>Subsidiary Hazard</td><td>Not Applicable</td></tr> </table>        | Class              | 8       | Subsidiary Hazard | Not Applicable |
| Class                             | 8                                                                                                                      |                    |         |                   |                |
| Subsidiary Hazard                 | Not Applicable                                                                                                         |                    |         |                   |                |
| 14.4. Packing group               | III                                                                                                                    |                    |         |                   |                |
| 14.5. Environmental hazard        | Not Applicable                                                                                                         |                    |         |                   |                |
| 14.6 Special precautions for user | <table> <tr> <td>Special provisions</td><td>223 274</td></tr> <tr> <td>Limited quantity</td><td>5 L</td></tr> </table> | Special provisions | 223 274 | Limited quantity  | 5 L            |
| Special provisions                | 223 274                                                                                                                |                    |         |                   |                |
| Limited quantity                  | 5 L                                                                                                                    |                    |         |                   |                |

## Air transport (ICAO-IATA / DGR)

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    |         |                                 |                |                               |      |                                          |     |                                        |     |                                                           |      |                                                |     |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------|---------------------------------|----------------|-------------------------------|------|------------------------------------------|-----|----------------------------------------|-----|-----------------------------------------------------------|------|------------------------------------------------|-----|
| 14.1. UN number                                           | 3264                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    |         |                                 |                |                               |      |                                          |     |                                        |     |                                                           |      |                                                |     |
| 14.2 UN proper shipping name                              | Corrosive liquid, acidic, inorganic, n.o.s. * (contains hydrochloric acid)                                                                                                                                                                                                                                                                                                                                                                                                                                                |                    |         |                                 |                |                               |      |                                          |     |                                        |     |                                                           |      |                                                |     |
| 14.3 Transport hazard class(es)                           | <table> <tr> <td>ICAO/IATA Class</td><td>8</td></tr> <tr> <td>ICAO / IATA Subsidiary Hazard</td><td>Not Applicable</td></tr> <tr> <td>ERG Code</td><td>8L</td></tr> </table>                                                                                                                                                                                                                                                                                                                                              | ICAO/IATA Class    | 8       | ICAO / IATA Subsidiary Hazard   | Not Applicable | ERG Code                      | 8L   |                                          |     |                                        |     |                                                           |      |                                                |     |
| ICAO/IATA Class                                           | 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |         |                                 |                |                               |      |                                          |     |                                        |     |                                                           |      |                                                |     |
| ICAO / IATA Subsidiary Hazard                             | Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |         |                                 |                |                               |      |                                          |     |                                        |     |                                                           |      |                                                |     |
| ERG Code                                                  | 8L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |         |                                 |                |                               |      |                                          |     |                                        |     |                                                           |      |                                                |     |
| 14.4. Packing group                                       | III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |         |                                 |                |                               |      |                                          |     |                                        |     |                                                           |      |                                                |     |
| 14.5. Environmental hazard                                | Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                    |         |                                 |                |                               |      |                                          |     |                                        |     |                                                           |      |                                                |     |
| 14.6 Special precautions for user                         | <table> <tr> <td>Special provisions</td><td>A3 A803</td></tr> <tr> <td>Cargo Only Packing Instructions</td><td>856</td></tr> <tr> <td>Cargo Only Maximum Qty / Pack</td><td>60 L</td></tr> <tr> <td>Passenger and Cargo Packing Instructions</td><td>852</td></tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td><td>5 L</td></tr> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td><td>Y841</td></tr> <tr> <td>Passenger and Cargo Limited Maximum Qty / Pack</td><td>1 L</td></tr> </table> | Special provisions | A3 A803 | Cargo Only Packing Instructions | 856            | Cargo Only Maximum Qty / Pack | 60 L | Passenger and Cargo Packing Instructions | 852 | Passenger and Cargo Maximum Qty / Pack | 5 L | Passenger and Cargo Limited Quantity Packing Instructions | Y841 | Passenger and Cargo Limited Maximum Qty / Pack | 1 L |
| Special provisions                                        | A3 A803                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |         |                                 |                |                               |      |                                          |     |                                        |     |                                                           |      |                                                |     |
| Cargo Only Packing Instructions                           | 856                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |         |                                 |                |                               |      |                                          |     |                                        |     |                                                           |      |                                                |     |
| Cargo Only Maximum Qty / Pack                             | 60 L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    |         |                                 |                |                               |      |                                          |     |                                        |     |                                                           |      |                                                |     |
| Passenger and Cargo Packing Instructions                  | 852                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |         |                                 |                |                               |      |                                          |     |                                        |     |                                                           |      |                                                |     |
| Passenger and Cargo Maximum Qty / Pack                    | 5 L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |         |                                 |                |                               |      |                                          |     |                                        |     |                                                           |      |                                                |     |
| Passenger and Cargo Limited Quantity Packing Instructions | Y841                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                    |         |                                 |                |                               |      |                                          |     |                                        |     |                                                           |      |                                                |     |
| Passenger and Cargo Limited Maximum Qty / Pack            | 1 L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |         |                                 |                |                               |      |                                          |     |                                        |     |                                                           |      |                                                |     |

## Sea transport (IMDG-Code / GGVSee)

|                 |      |
|-----------------|------|
| 14.1. UN number | 3264 |
|-----------------|------|

|                                   |                                                                          |                |  |
|-----------------------------------|--------------------------------------------------------------------------|----------------|--|
| 14.2 UN proper shipping name      | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (contains hydrochloric acid) |                |  |
| 14.3 Transport hazard class(es)   | IMDG Class                                                               | 8              |  |
|                                   | IMDG Subsidiary Hazard                                                   | Not Applicable |  |
| 14.4. Packing group               | III                                                                      |                |  |
| 14.5 Environmental hazard         | Not Applicable                                                           |                |  |
| 14.6 Special precautions for user | EMS Number                                                               | F-A, S-B       |  |
|                                   | Special provisions                                                       | 223 274        |  |
|                                   | Limited Quantities                                                       | 5 L            |  |

14.7. Maritime transport in bulk according to IMO instruments

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          |
|------------------------------|----------------|
| o-cresolphthalein complexone | Not Applicable |
| hydrochloric acid            | Not Applicable |

14.7.3. Transport in bulk in accordance with the IGC Code

| Product name                 | Ship Type      |
|------------------------------|----------------|
| o-cresolphthalein complexone | Not Applicable |
| hydrochloric acid            | Not Applicable |

SECTION 15 Regulatory information

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

o-cresolphthalein complexone is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

hydrochloric acid is found on the following regulatory lists

- Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
- Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
- Australian Inventory of Industrial Chemicals (AIIC)
- EAEU Narcotic drugs, psychotropic substances and their precursors - II. Precursors of narcotic drugs and psychotropic substances - List II (Russian)
- International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

Additional Regulatory Information

Not Applicable

National Inventory Status

| National Inventory                                | Status                                                                                                                                                                                            |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Australia - AIIC / Australia Non-Industrial Use   | Yes                                                                                                                                                                                               |
| Canada - DSL                                      | Yes                                                                                                                                                                                               |
| Canada - NDSL                                     | No (o-cresolphthalein complexone; hydrochloric acid)                                                                                                                                              |
| China - IECSC                                     | Yes                                                                                                                                                                                               |
| Europe - EINEC / ELINCS / NLP                     | Yes                                                                                                                                                                                               |
| Japan - ENCS                                      | No (o-cresolphthalein complexone)                                                                                                                                                                 |
| Korea - KECI                                      | Yes                                                                                                                                                                                               |
| New Zealand - NZIoC                               | No (o-cresolphthalein complexone)                                                                                                                                                                 |
| Philippines - PICCS                               | No (o-cresolphthalein complexone)                                                                                                                                                                 |
| USA - TSCA                                        | All chemical substances in this product have been designated as TSCA Inventory 'Active'                                                                                                           |
| Taiwan - TCSI                                     | Yes                                                                                                                                                                                               |
| Mexico - INSQ                                     | Yes                                                                                                                                                                                               |
| Vietnam - NCI                                     | Yes                                                                                                                                                                                               |
| Russia - FBEPH                                    | No (o-cresolphthalein complexone)                                                                                                                                                                 |
| UAE - Control List (Banned/Restricted Substances) | No (o-cresolphthalein complexone; hydrochloric acid)                                                                                                                                              |
| Legend:                                           | 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. |

## Calcium Analysis kit vial 2- Chromogen

## SECTION 16 Other information

|               |            |
|---------------|------------|
| Revision Date | 07/03/2026 |
| Initial Date  | 07/03/2026 |

## SDS Version Summary

| Version | Date of Update | Sections Updated                                                                                                                                                                             |
|---------|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2.1     | 07/03/2026     | Toxicological information - Acute Health (skin), Toxicological information - Acute Health (swallowed), Hazards identification - Classification, Accidental release measures - Spills (major) |

## Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

## Definitions and abbreviations

- ▶ PC – TWA: Permissible Concentration-Time Weighted Average
- ▶ PC – STEL: Permissible Concentration-Short Term Exposure Limit
- ▶ IARC: International Agency for Research on Cancer
- ▶ ACGIH: American Conference of Governmental Industrial Hygienists
- ▶ STEL: Short Term Exposure Limit
- ▶ TEEL: Temporary Emergency Exposure Limit
- ▶ IDLH: Immediately Dangerous to Life or Health Concentrations
- ▶ ES: Exposure Standard
- ▶ OSF: Odour Safety Factor
- ▶ NOAEL: No Observed Adverse Effect Level
- ▶ LOAEL: Lowest Observed Adverse Effect Level
- ▶ TLV: Threshold Limit Value
- ▶ LOD: Limit Of Detection
- ▶ OTV: Odour Threshold Value
- ▶ BCF: BioConcentration Factors
- ▶ BEI: Biological Exposure Index
- ▶ DNEL: Derived No-Effect Level
- ▶ PNEC: Predicted no-effect concentration
- ▶ MARPOL: International Convention for the Prevention of Pollution from Ships
- ▶ IMSBC: International Maritime Solid Bulk Cargoes Code
- ▶ IGC: International Gas Carrier Code
- ▶ IBC: International Bulk Chemical Code
- ▶ AIIC: Australian Inventory of Industrial Chemicals
- ▶ DSL: Domestic Substances List
- ▶ NDSL: Non-Domestic Substances List
- ▶ IECSC: Inventory of Existing Chemical Substance in China
- ▶ EINECS: European Inventory of Existing Commercial chemical Substances
- ▶ ELINCS: European List of Notified Chemical Substances
- ▶ NLP: No-Longer Polymers
- ▶ ENCS: Existing and New Chemical Substances Inventory
- ▶ KECI: Korea Existing Chemicals Inventory
- ▶ NZIoC: New Zealand Inventory of Chemicals
- ▶ PICCS: Philippine Inventory of Chemicals and Chemical Substances
- ▶ TSCA: Toxic Substances Control Act
- ▶ TCSI: Taiwan Chemical Substance Inventory
- ▶ INSQ: Inventario Nacional de Sustancias Químicas
- ▶ NCI: National Chemical Inventory
- ▶ FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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