



VINTESENTIAL<sup>®</sup>  
LABORATORIES

## Solution No. 3 For Rebelein Titration

Vintessential Laboratories

Chemwatch Hazard Alert Code: 2

Chemwatch: 4642-74

Version No: 4.1.1.1

Safety Data Sheet according to WHS and ADG requirements

Issue Date: 06/27/2017

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L.GHS.AUS.EN

### SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

#### Product Identifier

|                               |   |
|-------------------------------|---|
| Product name                  | Solution No. 3 For Rebelein Titration     |
| Synonyms                      | potassium iodide solution; Item No: 1S003 |
| Other means of identification | Not Available                             |

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

|                          |                             |
|--------------------------|-----------------------------|
| Relevant identified uses | General laboratory reagent. |
|--------------------------|-----------------------------|

#### Details of the supplier of the safety data sheet

|                         |  |
|-------------------------|--|
| Registered company name | Vintessential Laboratories                   |
| Address                 | 32 BRASSER AVENUE DROMANA VIC 3936 Australia |
| Telephone               | +61 3 5987 2242                              |
| Fax                     | +61 3 5987 3303                              |
| Website                 | Not Available                                |
| Email                   | Not Available                                |

#### Emergency telephone number

|                                   |                            |
|-----------------------------------|----------------------------|
| Association / Organisation        | Poisons Information Centre |
| Emergency telephone numbers       | 13 11 26                   |
| Other emergency telephone numbers | Not Available              |

### SECTION 2 HAZARDS IDENTIFICATION

#### Classification of the substance or mixture

|                    |   |
|--------------------|---|
| Poisons Schedule   | Not Applicable  |
| Classification [1] | Skin Corrosion/Irritation Category 1A, Serious Eye Damage 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)

|      |  |
|------|--|
| H314 | Causes severe skin burns and eye damage. |
|------|--|

#### Precautionary statement(s) Prevention

|      |                                     |
|------|-------------------------------------|
| P260 | Do not breathe mist/vapours/ spray. |
|------|-------------------------------------|

Continued...

|             |  |
|-------------|--|
| <b>P280</b> | Wear protective gloves/protective clothing/eye protection/face protection. |
|-------------|--|

**Precautionary statement(s) Response**

|                       |  |
|-----------------------|--|
| <b>P301+P330+P331</b> | IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.   |
| <b>P303+P361+P353</b> | IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.                       |
| <b>P305+P351+P338</b> | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| <b>P310</b>           | Immediately call a POISON CENTER or doctor/physician.  |
| <b>P321</b>           | Specific treatment (see advice on this label).   |
| <b>P363</b>           | Wash contaminated clothing before reuse.   |
| <b>P304+P340</b>      | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.                                 |

**Precautionary statement(s) Storage**

|             |                  |
|-------------|------------------|
| <b>P405</b> | Store locked up. |
|-------------|------------------|

**Precautionary statement(s) Disposal**

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

**SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS****Substances**

See section below for composition of Mixtures

**Mixtures**

| CAS No        | %[weight] | Name                    |
|---------------|-----------|-------------------------|
| 1310-73-2     | 0-1       | <u>sodium hydroxide</u> |
| Not Available | 30-40     | ingredient nonhazardous |
| 7732-18-5     | 30-70     | <u>water</u>            |

**SECTION 4 FIRST AID MEASURES****Description of first aid measures**

|                     |   |
|---------------------|---|
| <b>Eye Contact</b>  | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Wash out immediately with fresh running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Seek medical attention without delay; if pain persists or recurs seek medical attention.</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 contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately remove all contaminated clothing, including footwear.</li> <li>▶ Flush skin and hair with running water (and soap if available).</li> <li>▶ Seek medical attention in event of irritation.</li> </ul>   |
| <b>Inhalation</b>   | <ul style="list-style-type: none"> <li>▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li> <li>▶ Other measures are usually unnecessary.</li> </ul>   |
| <b>Ingestion</b>    | <ul style="list-style-type: none"> <li>▶ Immediately give a glass of water.</li> <li>▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li> </ul>   |

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

Treat symptomatically.

**SECTION 5 FIREFIGHTING MEASURES****Extinguishing media**

- ▶ There is no restriction on the type of extinguisher which may be used.
- ▶ Use extinguishing media suitable for surrounding area.

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

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

**Advice for firefighters**

|                      |   |
|----------------------|---|
| <b>Fire Fighting</b> | <ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves in the event of a fire.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water courses.</li> <li>▶ Use fire fighting procedures suitable for surrounding area.</li> <li>▶ <b>DO NOT</b> approach containers suspected to be hot.</li> <li>▶ Cool fire exposed containers with water spray from a protected location.</li> <li>▶ If safe to do so, remove containers from path of fire.</li> <li>▶ Equipment should be thoroughly decontaminated after use.</li> </ul> |
|----------------------|---|

## Solution No. 3 For Rebelein Titration

|                              |  |
|------------------------------|--|
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Non combustible.</li> <li>▶ Not considered to be a significant fire risk.</li> <li>▶ Expansion or decomposition on heating may lead to violent rupture of containers.</li> <li>▶ Decomposes on heating and may produce toxic/ irritating fumes.</li> <li>▶ May emit acrid smoke.</li> </ul> |
| <b>HAZCHEM</b>               | Not Applicable   |

## 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

|                     |  |
|---------------------|--|
| <b>Minor Spills</b> | <ul style="list-style-type: none"> <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>   |
| <b>Major Spills</b> | <p>Moderate hazard.</p> <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ 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

|                          |  |
|--------------------------|--|
| <b>Safe handling</b>     | <ul style="list-style-type: none"> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ 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> <li>▶ <b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> </ul> |
| <b>Other information</b> | <ul style="list-style-type: none"> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ 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

|                                |   |
|--------------------------------|---|
| <b>Suitable container</b>      | ▶ Glass container is suitable for laboratory quantities |
| <b>Storage incompatibility</b> | None known  |

## 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 | sodium hydroxide | Sodium hydroxide | Not Available | Not Available | 2 mg/m3 | Not Available |

## EMERGENCY LIMITS

## Solution No. 3 For Rebelein Titration

| Ingredient       | Material name    | TEEL-1        | TEEL-2        | TEEL-3        |
|------------------|------------------|---------------|---------------|---------------|
| sodium hydroxide | Sodium hydroxide | Not Available | Not Available | Not Available |

| Ingredient       | Original IDLH | Revised IDLH  |
|------------------|---------------|---------------|
| sodium hydroxide | 10 mg/m3      | Not Available |
| water            | Not Available | Not Available |

## MATERIAL DATA

## Exposure controls

| Appropriate engineering controls  | <p>None required when handling small quantities.</p> <p><b>OTHERWISE:</b></p> <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 specific circumstances. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed 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> <table border="1"> <thead> <tr> <th>Type of Contaminant:</th> <th>Air Speed:</th> </tr> </thead> <tbody> <tr> <td>solvent, vapours, degreasing etc., evaporating from tank (in still air).</td> <td>0.25-0.5 m/s<br/>(50-100 f/min)</td> </tr> <tr> <td>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)</td> <td>0.5-1 m/s (100-200 f/min.)</td> </tr> <tr> <td>direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)</td> <td>1-2.5 m/s (200-500 f/min.)</td> </tr> <tr> <td>grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).</td> <td>2.5-10 m/s<br/>(500-2000 f/min.)</td> </tr> </tbody> </table> <p>Within each range the appropriate value depends on:</p> <table border="1"> <thead> <tr> <th>Lower end of the range</th> <th>Upper end of the range</th> </tr> </thead> <tbody> <tr> <td>1: Room air currents minimal or favourable to capture</td> <td>1: Disturbing room air currents</td> </tr> <tr> <td>2: Contaminants of low toxicity or of nuisance value only.</td> <td>2: Contaminants of high toxicity</td> </tr> <tr> <td>3: Intermittent, low production.</td> <td>3: High production, heavy use</td> </tr> <tr> <td>4: Large hood or large air mass in motion</td> <td>4: Small hood-local control only</td> </tr> </tbody> </table> <p>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.</p> | Type of Contaminant: | Air Speed: | solvent, vapours, degreasing etc., evaporating from tank (in still air). | 0.25-0.5 m/s<br>(50-100 f/min) | aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation) | 0.5-1 m/s (100-200 f/min.) | direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion) | 1-2.5 m/s (200-500 f/min.) | grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion). | 2.5-10 m/s<br>(500-2000 f/min.) | Lower end of the range | Upper end of the range | 1: Room air currents minimal or favourable to capture | 1: Disturbing room air currents | 2: Contaminants of low toxicity or of nuisance value only. | 2: Contaminants of high toxicity | 3: Intermittent, low production. | 3: High production, heavy use | 4: Large hood or large air mass in motion | 4: Small hood-local control only |
|---|--|----------------------|------------|--|--------------------------------|---|----------------------------|--|----------------------------|--|---------------------------------|------------------------|------------------------|---|---------------------------------|--|----------------------------------|----------------------------------|-------------------------------|---|----------------------------------|
|   | Type of Contaminant:   | Air Speed:           |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| solvent, vapours, degreasing etc., evaporating from tank (in still air).  | 0.25-0.5 m/s<br>(50-100 f/min)   |                      |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation) | 0.5-1 m/s (100-200 f/min.)   |                      |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)  | 1-2.5 m/s (200-500 f/min.)   |                      |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).  | 2.5-10 m/s<br>(500-2000 f/min.)  |                      |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| Lower end of the range  | Upper end of the range   |                      |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| 1: Room air currents minimal or favourable to capture   | 1: Disturbing room air currents  |                      |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| 2: Contaminants of low toxicity or of nuisance value only.  | 2: Contaminants of high toxicity   |                      |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| 3: Intermittent, low production.  | 3: High production, heavy use  |                      |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| 4: Large hood or large air mass in motion   | 4: Small hood-local control only   |                      |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| Personal protection   |   |                      |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| Eye and face protection   | <ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]</li> </ul>  |                      |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| Skin protection   | See Hand protection below  |                      |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| Hands/feet protection   | <ul style="list-style-type: none"> <li>▶ Wear chemical protective gloves, e.g. PVC.</li> <li>▶ Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul>   |                      |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| Body protection   | See Other protection below   |                      |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| Other protection  | <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ P.V.C. apron.</li> <li>▶ Barrier cream.</li> <li>▶ Skin cleansing cream.</li> <li>▶ Eye wash unit.</li> </ul>  |                      |            |  |                                |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |

## 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:

Continued...

## Solution No. 3 For Rebelein Titration

| Material          | CPI |
|-------------------|-----|
| BUTYL             | A   |
| NEOPRENE          | A   |
| NAT+NEOPR+NITRILE | C   |
| NATURAL RUBBER    | C   |
| NATURAL+NEOPRENE  | C   |
| NEOPRENE/NATURAL  | C   |
| NITRILE           | C   |
| NITRILE+PVC       | C   |
| PE                | C   |
| PE/EVAL/PE        | C   |
| PVA               | C   |
| PVC               | C   |
| SARANEX-23        | C   |
| SARANEX-23 2-PLY  | C   |
| TEFLON            | C   |
| VITON             | C   |
| VITON/CHLOROBUTYL | 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 might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

## SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

## Information on basic physical and chemical properties

|   |  |  |                |
|---|--|--|----------------|
| <b>Appearance</b>                                   | Colourless, odourless alkaline liquid; mixes with water. |  |                |
| <b>Physical state</b>                               | Liquid   | <b>Relative density (Water = 1)</b>            | 1.2            |
| <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>                             | >13  | <b>Decomposition temperature</b>               | Not Available  |
| <b>Melting point / freezing point (°C)</b>          | Not Available  | <b>Viscosity (cSt)</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  |

## SECTION 10 STABILITY AND REACTIVITY

|   |  |
|---|--|
| <b>Reactivity</b>                         | See section 7  |
| <b>Chemical stability</b>                 | <ul style="list-style-type: none"> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul> |
| <b>Possibility of hazardous reactions</b> | See section 7  |
| <b>Conditions to avoid</b>                | See section 7  |
| <b>Incompatible materials</b>             | See section 7  |
| <b>Hazardous decomposition products</b>   | See section 5  |

## SECTION 11 TOXICOLOGICAL INFORMATION

## Solution No. 3 For Rebelein Titration

## Information on toxicological effects

|              |  |
|--------------|--|
| Inhaled      | Not normally a hazard due to non-volatile nature of product  |
| Ingestion    | The material has <b>NOT</b> been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern. |
| Skin Contact | The material may accentuate any pre-existing dermatitis condition<br>The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) thickening of the epidermis.<br>Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Prolonged contact is unlikely, given the severity of response, but repeated exposures may produce severe ulceration.   |
| Eye          | The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.   |
| Chronic      | Principal routes of exposure are by accidental skin and eye contact and by inhalation of vapours especially at higher temperatures.<br><br>As with any chemical product, contact with unprotected bare skin; inhalation of vapour, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.  |

|                                       |   |  |
|---------------------------------------|---|--|
| Solution No. 3 For Rebelein Titration | TOXICITY  | IRRITATION   |
|                                       | Not Available   | Not Available  |
| sodium hydroxide                      | TOXICITY  | IRRITATION   |
|                                       | Dermal (rabbit) LD50: 1350 mg/kg <sup>[2]</sup>   | Eye (rabbit): 0.05 mg/24h SEVERE                         |
|                                       |   | Eye (rabbit): 1 mg/24h SEVERE                            |
|                                       |   | Eye (rabbit): 1 mg/30s rinsed-SEVERE                     |
|                                       |   | Eye: adverse effect observed (irritating) <sup>[1]</sup> |
|                                       |   | Skin (rabbit): 500 mg/24h SEVERE                         |
|                                       |   | Skin: adverse effect observed (corrosive) <sup>[1]</sup> |
| water                                 | TOXICITY  | IRRITATION   |
|                                       | Oral (rat) LD50: >90000 mg/kg <sup>[2]</sup>  | Not Available  |
| <b>Legend:</b>                        | 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 |  |

|                  |  |
|------------------|--|
| SODIUM HYDROXIDE | Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. 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. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production. |
|                  | The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.<br>The material may produce severe skin irritation after prolonged or repeated exposure, and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) thickening of the epidermis.<br>Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis. Prolonged contact is unlikely, given the severity of response, but repeated exposures may produce severe ulceration.  |
| WATER            | No significant acute toxicological data identified in literature search.   |

|                                   |   |                          |   |
|-----------------------------------|---|--------------------------|---|
| 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

|                                       |          |                    |         |       |        |
|---------------------------------------|----------|--------------------|---------|-------|--------|
| Solution No. 3 For Rebelein Titration | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|                                       |          |                    |         |       |        |

Continued...

**Solution No. 3 For Rebelein Titration**

|                         | Not Available   | Not Available             | Not Available                 | Not Available | Not Available |
|-------------------------|---|---------------------------|-------------------------------|---------------|---------------|
| <b>sodium hydroxide</b> | <b>ENDPOINT</b>   | <b>TEST DURATION (HR)</b> | <b>SPECIES</b>                | <b>VALUE</b>  | <b>SOURCE</b> |
|                         | LC50  | 96                        | Fish                          | 125mg/L       | 4             |
|                         | EC50  | 48                        | Crustacea                     | 40.4mg/L      | 2             |
|                         | EC50  | 96                        | Algae or other aquatic plants | 3180000mg/L   | 3             |
|                         | NOEC  | 96                        | Fish                          | 56mg/L        | 4             |
| <b>water</b>            | <b>ENDPOINT</b>   | <b>TEST DURATION (HR)</b> | <b>SPECIES</b>                | <b>VALUE</b>  | <b>SOURCE</b> |
|                         | LC50  | 96                        | Fish                          | 897.520mg/L   | 3             |
|                         | EC50  | 96                        | Algae or other aquatic plants | 8768.874mg/L  | 3             |
| <b>Legend:</b>          | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data |                           |                               |               |               |

?

**Persistence and degradability**

| Ingredient       | Persistence: Water/Soil | Persistence: Air |
|------------------|-------------------------|------------------|
| sodium hydroxide | LOW                     | LOW              |
| water            | LOW                     | LOW              |

**Bioaccumulative potential**

| Ingredient       | Bioaccumulation        |
|------------------|------------------------|
| sodium hydroxide | LOW (LogKOW = -3.8796) |
| water            | LOW (LogKOW = -1.38)   |

**Mobility in soil**

| Ingredient       | Mobility         |
|------------------|------------------|
| sodium hydroxide | LOW (KOC = 14.3) |
| water            | LOW (KOC = 14.3) |

**SECTION 13 DISPOSAL CONSIDERATIONS**

**Waste treatment methods**

|                                     |  |
|-------------------------------------|--|
| <b>Product / Packaging disposal</b> | <ul style="list-style-type: none"> <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>▶ Dispose of 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. Observe all label safeguards until containers are cleaned and destroyed.</li> </ul> |
|-------------------------------------|--|

**SECTION 14 TRANSPORT INFORMATION**

**Labels Required**

|                         |                |
|-------------------------|----------------|
| <b>Marine Pollutant</b> | NO             |
| <b>HAZCHEM</b>          | Not Applicable |

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

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

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

**Transport in bulk according to Annex II of MARPOL and the IBC code**

Not Applicable

**SECTION 15 REGULATORY INFORMATION**

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

**SODIUM HYDROXIDE IS FOUND ON THE FOLLOWING REGULATORY LISTS**

## Solution No. 3 For Rebelein Titration

Australia Dangerous Goods Code (ADG Code) - Dangerous Goods List  
 Australia Dangerous Goods Code (ADG Code) - List of Emergency Action Codes  
 Australia Exposure Standards  
 Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australia Inventory of Chemical Substances (AICS)  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 10 / Appendix C  
 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  
 GESAMP/EHS Composite List - GESAMP Hazard Profiles  
 IMO IBC Code Chapter 17: Summary of minimum requirements  
 IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards  
 International Air Transport Association (IATA) Dangerous Goods Regulations  
 International Maritime Dangerous Goods Requirements (IMDG Code)  
 United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

## WATER IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

IMO IBC Code Chapter 18: List of products to which the Code does not apply

## National Inventory Status

| National Inventory            | Status   |
|-------------------------------|--|
| Australia - AICS              | Yes  |
| Canada - DSL                  | Yes  |
| Canada - NDSL                 | No (water; sodium hydroxide)   |
| China - IECSC                 | Yes  |
| Europe - EINEC / ELINCS / NLP | Yes  |
| Japan - ENCS                  | Yes  |
| Korea - KECI                  | Yes  |
| New Zealand - NZIoC           | Yes  |
| Philippines - PICCS           | Yes  |
| USA - TSCA                    | Yes  |
| Taiwan - TCSI                 | Yes  |
| Mexico - INSQ                 | Yes  |
| Vietnam - NCI                 | Yes  |
| Russia - ARIPS                | Yes  |
| <b>Legend:</b>                | Yes = All CAS declared ingredients are on the inventory<br>No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets) |

## SECTION 16 OTHER INFORMATION

|                      |               |
|----------------------|---------------|
| <b>Revision Date</b> | 06/27/2017    |
| <b>Initial Date</b>  | Not Available |

## SDS Version Summary

| Version | Issue Date | Sections Updated    |
|---------|------------|---------------------|
| 3.1.1.1 | 08/17/2005 | Physical Properties |

## 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  
 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

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