# Rowe Scientific Potassium Dichromate 0.1-3% solutions in water ROWE SCIENTIFIC

Chemwatch Hazard Alert Code: 3

Issue Date: **10/11/2020**Print Date: **10/11/2020**S.GHS.AUS.EN

Chemwatch: **5196-40**Version No: **4.1.1.1**Safety Data Sheet according to WHS and ADG requirements

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

#### **Product Identifier**

| Product name                  | Rowe Scientific Potassium Dichromate 0.1-3% solutions in water         |
|-------------------------------|--|
| Synonyms                      | CP4825; CP4832; CP4833; CP4835; CP4838; CP4839; CP4840; CP4845; KH1472 |
| Other means of identification | Not Available  |

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

Relevant identified uses Laboratory reagent.

## Details of the supplier of the safety data sheet

| Registered company name | ROWE SCIENTIFIC                                  |
|-------------------------|--|
| Address                 | 11 Challenge Boulevard Wangara WA 6065 Australia |
| Telephone               | +61 8 9302 1911                                  |
| Fax                     | +61 8 9302 1905                                  |
| Website                 | http://rowe.com.au/                              |
| Email                   | rowewa@rowe.com.au                               |

# Emergency telephone number

| Association / Organisation        | ROWE SCIENTIFIC          |
|-----------------------------------|--------------------------|
| Emergency telephone numbers       | +61 8 9302 1911 (24 Hrs) |
| Other emergency telephone numbers | Not Available            |

## **SECTION 2 Hazards identification**

## Classification of the substance or mixture

## HAZARDOUS CHEMICAL. NON-DANGEROUS GOODS. According to the WHS Regulations and the ADG Code.

| Poisons Schedule              | Not Applicable   |
|-------------------------------|--|
| Classification <sup>[1]</sup> | Acute Toxicity (Oral) Category 4, Acute Toxicity (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Serious Eye Damage Category 1, Skin Sensitizer Category 1, Respiratory Sensitizer Category 1, Germ cell mutagenicity Category 1B, Carcinogenicity Category 1A, Reproductive Toxicity Category 1B, Specific target organ toxicity - repeated exposure Category 2, Chronic Aquatic Hazard Category 2 |
| Legend:                       | 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 -<br>Annex VI   |

## Label elements

Hazard pictogram(s)









Signal word

Danger

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# Hazard statement(s)

| H302   | Harmful if swallowed.  |
|--------|--|
| H332   | Harmful if inhaled.  |
| H315   | Causes skin irritation.  |
| H318   | Causes serious eye damage.   |
| H317   | May cause an allergic skin reaction.                                       |
| H334   | May cause allergy or asthma symptoms or breathing difficulties if inhaled. |
| H340   | May cause genetic defects.   |
| H350   | May cause cancer.  |
| H360FD | May damage fertility. May damage the unborn child.                         |
| H373   | May cause damage to organs through prolonged or repeated exposure.         |
| H411   | Toxic to aquatic life with long lasting effects.                           |

# Precautionary statement(s) Prevention

| P201 | Obtain special instructions before use.                                    |
|------|--|
| P260 | Do not breathe mist/vapours/spray.   |
| P271 | Use only outdoors or in a well-ventilated area.                            |
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P281 | Use personal protective equipment as required.                             |
| P285 | In case of inadequate ventilation wear respiratory protection.             |
| P270 | Do not eat, drink or smoke when using this product.                        |
| P273 | Avoid release to the environment.  |
| P272 | Contaminated work clothing should not be allowed out of the workplace.     |

# Precautionary statement(s) Response

| P304+P340      | IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.                                 |
|----------------|--|
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P308+P313      | IF exposed or concerned: Get medical advice/attention.   |
| P310           | Immediately call a POISON CENTER or doctor/physician.  |
| P321           | Specific treatment (see advice on this label).   |
| P342+P311      | If experiencing respiratory symptoms: Call a POISON CENTER or doctor/physician.  |
| P362           | Take off contaminated clothing and wash before reuse.  |
| P302+P352      | IF ON SKIN: Wash with plenty of water.   |
| P333+P313      | If skin irritation or rash occurs: Get medical advice/attention.   |
| P391           | Collect spillage.  |
| P301+P312      | IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.   |
| P330           | Rinse mouth.   |

## 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. |
|------|--|

# **SECTION 3 Composition / information on ingredients**

## **Substances**

See section below for composition of Mixtures

# Mixtures

| CAS No    | %[weight] | Name                 |
|-----------|-----------|----------------------|
| 7778-50-9 | 0.1-3     | potassium dichromate |

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| CAS No    | %[weight] | Name  |
|-----------|-----------|-------|
| 7732-18-5 | >96       | water |

# **SECTION 4 First aid measures**

| Description of first aid measures |   |  |
|-----------------------------------|---|--|
| Eye Contact                       | If this product comes in contact with the eyes:  • Wash out immediately with fresh running water.  • 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.  • Seek medical attention without delay; if pain persists or recurs seek medical attention.  • Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.   |  |
| Skin Contact                      | If skin contact occurs:  Immediately remove all contaminated clothing, including footwear.  Flush skin and hair with running water (and soap if available).  Seek medical attention in event of irritation.   |  |
| Inhalation                        | <ul> <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, without delay.</li> </ul>  |  |
| Ingestion                         | <ul> <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>If swallowed do NOT induce vomiting.</li> <li>If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>Observe the patient carefully.</li> <li>Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>Transport to hospital or doctor without delay.</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

| Fire Incompatibility    | None known.  |
|-------------------------|--|
| Advice for firefighters |  |
| Fire Fighting           | <ul> <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>DO NOT 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> |
| Fire/Explosion Hazard   | <ul> <li>Non combustible.</li> <li>Not considered a significant fire risk, however containers may burn.</li> <li>May emit poisonous fumes.</li> <li>May emit corrosive fumes.</li> </ul>   |
| HAZCHEM                 | Not Applicable   |

## **SECTION 6 Accidental release measures**

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#### 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> <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> <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 all means available, spillage from entering drains or water courses.</li> <li>Consider evacuation (or protect in place).</li> <li>No smoking, naked lights or ignition sources.</li> <li>Increase ventilation.</li> <li>Stop leak if safe to do so.</li> <li>Water spray or fog may be used to disperse / absorb vapour.</li> <li>Contain or absorb spill with sand, earth or vermiculite.</li> <li>Collect recoverable product into labelled containers for recycling.</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**

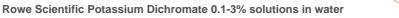
## Precautions for safe handling ▶ DO NOT allow clothing wet with material to stay in contact with skin Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area. Prevent concentration in hollows and sumps. ▶ DO NOT enter confined spaces until atmosphere has been checked. ▶ DO NOT allow material to contact humans, exposed food or food utensils. Avoid contact with incompatible materials. Safe handling When handling, DO NOT eat, drink or smoke. ▶ Keep containers securely sealed when not in use. Avoid physical damage to containers. Always wash hands with soap and water after handling. ▶ Work clothes should be laundered separately. Launder contaminated clothing before re-use. Use good occupational work practice. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. ► Store in original containers. Keep containers securely sealed. Store in a cool, dry, well-ventilated area. Other information ▶ Store away from incompatible materials and foodstuff containers. Protect containers against physical damage and check regularly for leaks. • Observe manufacturer's storage and handling recommendations contained within this SDS.

## Conditions for safe storage, including any incompatibilities

| Suitable container      | <ul> <li>Glass container is suitable for laboratory quantities</li> <li>Polyethylene or polypropylene container.</li> <li>Packing as recommended by manufacturer.</li> <li>Check all containers are clearly labelled and free from leaks.</li> </ul> |  |
|-------------------------|--|--|
| Storage incompatibility | None known   |  |

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- Must not be stored together
- May be stored together with specific preventions
- May be stored together

#### SECTION 8 Exposure controls / personal protection

## **Control parameters**

#### Occupational Exposure Limits (OEL)

#### **INGREDIENT DATA**

| Source             | Ingredient | Material name                          | TWA   | STEL      | Peak      | Notes     |
|--------------------|------------|--|-------|-----------|-----------|-----------|
| Australia Exposure | potassium  | Chromium (VI) compounds (as Cr), water | 0.05  | Not       | Not       | Not       |
| Standards          | dichromate | soluble                                | mg/m3 | Available | Available | Available |

## **Emergency Limits**

| Ingredient           | Material name        | TEEL-1     | TEEL-2    | TEEL-3   |
|----------------------|----------------------|------------|-----------|----------|
| potassium dichromate | Potassium dichromate | 0.42 mg/m3 | 7.4 mg/m3 | 44 mg/m3 |

| Ingredient           | Original IDLH | Revised IDLH  |
|----------------------|---------------|---------------|
| potassium dichromate | Not Available | Not Available |
| water                | Not Available | Not Available |

## **Exposure controls**

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:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

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. Employers may need to use multiple types of controls to prevent employee overexposure.

- Employees exposed to confirmed human carcinogens should be authorized to do so by the employer, and work in a regulated
- Work should be undertaken in an isolated system such as a "glove-box". Employees should wash their hands and arms upon completion of the assigned task and before engaging in other activities not associated with the isolated system.
- Within regulated areas, the carcinogen should be stored in sealed containers, or enclosed in a closed system, including piping systems, with any sample ports or openings closed while the carcinogens are contained within.
- Open-vessel systems are prohibited.
- ▶ Each operation should be provided with continuous local exhaust ventilation so that air movement is always from ordinary work areas to the operation.
- Exhaust air should not be discharged to regulated areas, non-regulated areas or the external environment unless decontaminated. Clean make-up air should be introduced in sufficient volume to maintain correct operation of the local exhaust system.
- For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.
- Except for outdoor systems, regulated areas should be maintained under negative pressure (with respect to non-regulated
- ▶ Local exhaust ventilation requires make-up air be supplied in equal volumes to replaced air.
- Laboratory hoods must be designed and maintained so as to draw air inward at an average linear face velocity of 0.76 m/sec with a minimum of 0.64 m/sec. Design and construction of the fume hood requires that insertion of any portion of the employees body, other than hands and arms, be disallowed.

Personal protection

Appropriate engineering

controls









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#### Safety glasses with side shields. Chemical goggles. ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should Eye and face protection 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] Skin protection See Hand protection below Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber NOTE: Hands/feet protection The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. **Body protection** See Other protection below • Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area. [AS/NZS ISO 6529:2006 or national equivalent] Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted. [AS/NZS 1715 or national equivalent] Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely. Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in Other protection impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood. Overalls. P.V.C apron. Barrier cream. Skin cleansing cream. ▶ Eye wash unit.

## **SECTION 9 Physical and chemical properties**

## Information on basic physical and chemical properties

| Appearance                                   | Colourless to pale yellow liquid; mixes with water. |   |                |
|--|---|---|----------------|
|  |   |   |                |
| Physical state                               | Liquid  | Relative density (Water = 1)            | Not Available  |
| Odour  | Not Available                                       | Partition coefficient n-octanol / water | Not Available  |
| Odour threshold                              | Not Available                                       | Auto-ignition temperature (°C)          | Not Applicable |
| pH (as supplied)                             | Not Available                                       | Decomposition temperature               | Not Available  |
| Melting point / freezing point (°C)          | Not Available                                       | Viscosity (cSt)                         | Not Available  |
| Initial boiling point and boiling range (°C) | Not Available                                       | Molecular weight (g/mol)                | Not Applicable |
| Flash point (°C)                             | Not Applicable                                      | Taste                                   | Not Available  |
| Evaporation rate                             | Not Available                                       | Explosive properties                    | Not Available  |
| Flammability                                 | Not Applicable                                      | Oxidising properties                    | Not Available  |
| Upper Explosive Limit (%)                    | Not Applicable                                      | Surface Tension (dyn/cm or mN/m)        | Not Available  |
| Lower Explosive Limit (%)                    | Not Applicable                                      | Volatile Component (%vol)               | Not Available  |
| Vapour pressure (kPa)                        | Not Available                                       | Gas group                               | Not Available  |

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| Solubility in water      | Miscible       | pH as a solution (1%) | Not Available |
|--------------------------|----------------|-----------------------|---------------|
| Vapour density (Air = 1) | Not Applicable | VOC g/L               | Not Available |

# **SECTION 10 Stability and reactivity**

| Reactivity                         | See section 7  |
|------------------------------------|--|
| Chemical stability                 | <ul> <li>Unstable in the presence of incompatible materials.</li> <li>Product is considered stable.</li> <li>Hazardous polymerisation will not occur.</li> </ul> |
| Possibility of hazardous reactions | See section 7  |
| Conditions to avoid                | See section 7  |
| Incompatible materials             | See section 7  |
| Hazardous decomposition products   | See section 5  |

# **SECTION 11 Toxicological information**

# Information on toxicological effects

| Inhaled Inhale |              |  |
|--|--------------|--|
| toxic effects.  The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally distress.  Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.  Ingestion may result in nausea, abdominal irritation, pain and vomiting  Skin contact is not thought to produce harmful health effects (as classified under EC Directives using animal models). Systemic harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions.  Open cuts, abraded or irritated skin should not be exposed to this material  Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.  Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.  Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).  Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.  Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general  | Chronic      | There is ample evidence that this material can be regarded as being able to cause cancer in humans based on experiments an other information.  Based on experiments and other information, there is ample evidence to presume that exposure to this material can cause genetic defects that can be inherited.  Harmful: danger of serious damage to health by prolonged exposure through inhalation.  This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects.  Ample evidence exists from experimentation that reduced human fertility is directly caused by exposure to the material.  Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material.  Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term |
| toxic effects.  The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally distress.  Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.  Ingestion may result in nausea, abdominal irritation, pain and vomiting  Skin contact is not thought to produce harmful health effects (as classified under EC Directives using animal models). Systemic harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions.  Open cuts, abraded or irritated skin should not be exposed to this material  Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.  Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce  |              | Inhaling this product is more likely to cause a sensitisation reaction in some persons compared to the general population.  Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general  |
| toxic effects.  The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally distress.  Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.  Ingestion may result in nausea, abdominal irritation, pain and vomiting  Skin contact is not thought to produce harmful health effects (as classified under EC Directives using animal models). Systemic harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions.  Open cuts, abraded or irritated skin should not be exposed to this material  Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.   | Eye          |  |
| toxic effects.  The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally distress.  Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.  | Skin Contact | harm, however, has been identified following exposure of animals by at least one other route and the material may still produce health damage following entry through wounds, lesions or abrasions.  Open cuts, abraded or irritated skin should not be exposed to this material  Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects.   |
| toxic effects.  The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally   | Ingestion    | fatal or may produce serious damage to the health of the individual.   |
|  | Inhaled      | The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally   |

| Rowe Scientific Potassium            | TOXICITY  | IRRITATION                    |  |
|--------------------------------------|---|-------------------------------|--|
| Dichromate 0.1-3% solutions in water | Not Available   | Not Available                 |  |
|                                      | TOXICITY  | IRRITATION                    |  |
| potassium dichromate                 | Dermal (rabbit) LD50: 14 mg/kg <sup>[2]</sup>   | Highly irritating & corrosive |  |
|                                      | Oral (rat) LD50: 25 mg/kg <sup>[2]</sup>  |                               |  |
|                                      | TOXICITY  | IRRITATION                    |  |
| water                                | Oral (rat) LD50: >90000 mg/kg <sup>[2]</sup>  | Not Available                 |  |
| Legend:                              | 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. |                               |  |

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The following information refers to contact allergens as a group and may not be specific to this product.

Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.

Allergic reactions involving the respiratory tract are usually due to interactions between IgE antibodies and allergens and occur rapidly. Allergic potential of the allergen and period of exposure often determine the severity of symptoms. Some people may be genetically more prone than others, and exposure to other irritants may aggravate symptoms. Allergy causing activity is due to interactions with proteins.

#### POTASSIUM DICHROMATE

Attention should be paid to atopic diathesis, characterised by increased susceptibility to nasal inflammation, asthma and eczema. Exogenous allergic alveolitis is induced essentially by allergen specific immune-complexes of the IgG type; cell-mediated reactions (T lymphocytes) may be involved. Such allergy is of the delayed type with onset up to four hours following exposure. 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.

WARNING: This substance has been classified by the IARC as Group 1: CARCINOGENIC TO HUMANS.

WATER

No significant acute toxicological data identified in literature search.

| Acute Toxicity                    | ✓        | Carcinogenicity          | ✓        |
|-----------------------------------|----------|--------------------------|----------|
| Skin Irritation/Corrosion         | <b>✓</b> | Reproductivity           | <b>✓</b> |
| Serious Eye<br>Damage/Irritation  | <b>✓</b> | STOT - Single Exposure   | ×        |
| Respiratory or Skin sensitisation | <b>✓</b> | STOT - Repeated Exposure | <b>✓</b> |
| Mutagenicity                      | <b>~</b> | Aspiration Hazard        | ×        |

**Legend: X** − Data either not available or does not fill the criteria for classification

✓ – Data available to make classification

## **SECTION 12 Ecological information**

#### **Toxicity**

| Rowe Scientific Potassium<br>Dichromate 0.1-3%<br>solutions in water | Endpoint         | Test Duration (hr)                | Species  | Value                   | Source           |
|--|------------------|-----------------------------------|--|-------------------------|------------------|
|  | Not<br>Available | Not Available                     | Not Available  | Not<br>Available        | Not<br>Available |
| potassium dichromate   | Endpoint         | Test Duration (hr)                | Species  | Value                   | Source           |
|  | EC50             | 48                                | Crustacea  | 0.0225mg/L              | 5                |
|  | EC50             | 72                                | Algae or other aquatic plants  | 0.47mg/L                | 5                |
|  | NOEC             | 504                               | Crustacea  | 0.018mg/L               | 5                |
| water  | Endpoint         | Test Duration (hr)                | Species  | Value                   | Source           |
|  | Not<br>Available | Not Available                     | Not Available  | Not<br>Available        | Not<br>Available |
| Legend:  | 3. EPIWIN St     | uite V3.12 (QSAR) - Aquatic Toxic | pe ECHA Registered Substances - Ecotoxicologi<br>city Data (Estimated) 4. US EPA, Ecotox database<br>NITE (Japan) - Bioconcentration Data 7. METI (J | e - Aquatic Toxicity Da | ata 5.           |

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. **DO NOT** discharge into sewer or waterways.

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## Persistence and degradability

| Ingredient           | Persistence: Water/Soil | Persistence: Air |
|----------------------|-------------------------|------------------|
| potassium dichromate | HIGH                    | HIGH             |
| water                | LOW                     | LOW              |

## **Bioaccumulative potential**

| Ingredient           | Bioaccumulation       |  |
|----------------------|-----------------------|--|
| potassium dichromate | LOW (LogKOW = 2.6724) |  |
| water                | LOW (LogKOW = -1.38)  |  |

## Mobility in soil

| Ingredient           | Mobility          |  |
|----------------------|-------------------|--|
| potassium dichromate | LOW (KOC = 393.3) |  |
| water                | LOW (KOC = 14.3)  |  |

## **SECTION 13 Disposal considerations**

#### Waste treatment methods

**Product / Packaging** disposal

- ▶ Recycle wherever possible or consult manufacturer for recycling options.
- ▶ Consult State Land Waste Management Authority for disposal.
- Bury residue in an authorised landfill.
- Recycle containers if possible, or dispose of in an authorised landfill.

## **SECTION 14 Transport information**

### Labels Required

**Marine Pollutant** 



**HAZCHEM** 

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

potassium dichromate is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6

Australian Inventory of Industrial Chemicals (AIIC)

water is found on the following regulatory lists

Australian Inventory of Industrial Chemicals (AIIC)

Chemical Footprint Project - Chemicals of High Concern List

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 1 : Carcinogenic to humans

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| National Inventory                | Status  |  |
|-----------------------------------|---|--|
| Australia - AIIC                  | Yes   |  |
| Australia - Non-Industrial<br>Use | No (potassium dichromate; water)  |  |
| Canada - DSL                      | Yes   |  |
| Canada - NDSL                     | No (potassium dichromate; water)  |  |
| China - IECSC                     | Yes   |  |
| Europe - EINEC / ELINCS /<br>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   |  |
| Legend:                           | Yes = All CAS declared ingredients are on the inventory 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**

| Revision Date | 10/11/2020 |
|---------------|------------|
| Initial Date  | 10/11/2015 |

## **SDS Version Summary**

| Version | Issue Date | Sections Updated   |
|---------|------------|--|
| 3.1.1.1 | 01/11/2019 | One-off system update. NOTE: This may or may not change the GHS classification |
| 4.1.1.1 | 10/11/2020 | Classification, Name   |

## 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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