

## Smart Paraquat 250 Herbicide

### Crop Smart Pty Ltd

Chemwatch: 5530-27

Version No: 2.1

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Chemwatch Hazard Alert Code: 4

Issue Date: 18/03/2022

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S.GHS.AUS.EN.E

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

### Product Identifier

|                               |                                       |
|-------------------------------|---------------------------------------|
| Product name                  | Smart Paraquat 250 Herbicide          |
| Chemical Name                 | Not Applicable                        |
| Synonyms                      | APVMA Approval Number:64588           |
| Proper shipping name          | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC |
| 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 | Herbicide |
|--------------------------|-----------|

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

|                         |   |
|-------------------------|---|
| Registered company name | Crop Smart Pty Ltd                                    |
| Address                 | 2409/ 4 Daydream Street WARRIEWOOD NSW 2102 Australia |
| Telephone               | +61 1300 783 481                                      |
| Fax                     | Not Available   |
| Website                 | www.cropsmart.com.au                                  |
| Email                   | Admin@cropsmart.com.au                                |

### Emergency telephone number

|                                   |                              |
|-----------------------------------|------------------------------|
| Association / Organisation        | CHEMWATCH EMERGENCY RESPONSE |
| Emergency telephone numbers       | +61 1800 951 288             |
| Other emergency telephone numbers | +61 2 9186 1132              |

Once connected and if the message is not in your preferred language then please dial 01

## SECTION 2 Hazards identification

### Classification of the substance or mixture

|                    |  |
|--------------------|--|
| Poisons Schedule   | S7   |
| Classification [1] | Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 3, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2A, Acute Toxicity (Inhalation) Category 1, Specific Target Organ Toxicity - Single Exposure (Respiratory Tract Irritation) Category 3, Specific Target Organ Toxicity - Repeated Exposure Category 1, Hazardous to the Aquatic Environment Long-Term Hazard 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)

|      |                             |
|------|-----------------------------|
| H302 | Harmful if swallowed.       |
| H311 | Toxic in contact with skin. |

|      |   |
|------|---|
| H315 | Causes skin irritation.   |
| H319 | Causes serious eye irritation.                                  |
| H330 | Fatal if inhaled.   |
| H335 | May cause respiratory irritation.                               |
| H372 | Causes damage to organs through prolonged or repeated exposure. |
| H410 | Very toxic to aquatic life with long lasting effects.           |

**Precautionary statement(s) Prevention**

|      |  |
|------|--|
| 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 and face protection. |
| P264 | Wash all exposed external body areas thoroughly after handling.                  |
| P270 | Do not eat, drink or smoke when using this product.                              |
| P273 | Avoid release to the environment.  |
| P284 | [In case of inadequate ventilation] wear respiratory protection.                 |

**Precautionary statement(s) Response**

|                |  |
|----------------|--|
| P304+P340      | IF INHALED: Remove person to fresh air and keep comfortable for breathing.   |
| P310           | Immediately call a POISON CENTER/doctor/physician/first aider.   |
| P302+P352      | IF ON SKIN: Wash with plenty of water.   |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P337+P313      | If eye irritation persists: Get medical advice/attention.  |
| P361+P364      | Take off immediately all contaminated clothing and wash it before reuse.   |
| P391           | Collect spillage.  |
| P301+P312      | IF SWALLOWED: Call a POISON CENTER/doctor/physician/first aider if you feel unwell.  |
| P330           | Rinse mouth.   |
| P332+P313      | If skin irritation occurs: Get medical advice/attention.   |

**Precautionary statement(s) Storage**

|           |  |
|-----------|--|
| P403+P233 | Store in a well-ventilated place. Keep container tightly closed. |
| 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                       |
|---------------|-----------|----------------------------|
| 1910-42-5     | 20-30     | <u>paraquat dichloride</u> |
| Not Available | 1-5       | stenching agent            |
| Not Available | 10-30     | wetter                     |
| Not Available | 1-5       | dye                        |
| Not Available | 1-5       | silicone compounds         |
| 7732-18-5     | 10-30     | <u>water</u>               |

**Legend:** 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&L; \* EU IOELVs available

**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> </ul>  |

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|            |   |
|------------|---|
|            | <ul style="list-style-type: none"> <li>Transport to hospital, or doctor.</li> </ul>   |
| Inhalation | <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, without delay.</li> </ul>  |
| Ingestion  | <ul style="list-style-type: none"> <li><b>IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.</b></li> <li>For advice, contact a Poisons Information Centre or a doctor.</li> <li>Urgent hospital treatment is likely to be needed.</li> <li>In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.</li> <li>If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist.</li> <li>If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.</li> </ul> <p><b>Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:</b></p> <ul style="list-style-type: none"> <li><b>INDUCE</b> vomiting with fingers down the back of the throat, <b>ONLY IF CONSCIOUS</b>. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> </ul> <p><b>NOTE:</b> Wear a protective glove when inducing vomiting by mechanical means.</p> |

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

Treat symptomatically.

for bipyridilium intoxication, suggested treatment regime for paraquat may be useful, viz:

For ingestion:

- If liquid concentrates (20% or more) have been consumed give promptly large quantities of milk, egg whites, or gelatin solutions. 200 or 500 ml of a 30% suspension of activated charcoal, bentonite or Fuller's earth may be given if protein solutions are not available. Conversely, a slurry of granular household detergent or hand-washing liquid, well diluted with water, will precipitate paraquat (0.1-0.2 gm/kg). Emesis is probably best avoided because of potential mucosal injury and because intense vomiting may occur spontaneously.
- If diluted solutions (2% or less) or granular formulations were swallowed, administer syrup of Ipecac and/or perform gastric lavage. Leave in stomach 200 to 500 ml of 30% suspension of activated charcoal or bentonite, together with 30 gm of magnesium sulfate (Epsom salts). Re-administer the absorbent as often as practical (i.e. every 2 to 4 hours) for several days with magnesium sulfate to sustain diarrhoea.
- Forced diuresis may be necessary.
- Check repeatedly for impending pulmonary oedema.
- Methaemoglobinaemia responds to methylene blue but the drug may precipitate a late haemolytic crisis.
- Steroids may be administered in adrenal cortical failure.
- Monitor for signs of renal, hepatic or cardiac failure and institute appropriate therapies.

For spills on skin:

- Wash thoroughly with soap and water; treat local injury with bland preparations which may contain local anaesthetics, steroids and/or antibiotics.
- If dermal contact produces intoxication refer to therapy above.

For inhalation:

- If exposure is severe, institute therapy as above.

For splashes in the eye:

- Irrigate with water for 10 to 15 minutes.
- Use antibiotics to control infection.
- Consult ophthalmologist.

GOSELIN, SMITH and HODGE: *Clinical Toxicology of Commercial Products*.

*Fifth Edition, Lippincott, Williams and Wilkins*

**NOTE:** Bipyridilium compounds may be converted, in vivo, to a free radical which, in turn, reacts with molecular oxygen to form toxic intermediates as superoxide ion. Lung lesions have features in common with oxygen poisoning and high oxygen tensions increase paraquat lethality in rats and intensify lung injury.

**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 substrate or mixture**

|                             |  |
|-----------------------------|--|
| <b>Fire Incompatibility</b> | <ul style="list-style-type: none"> <li>Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result</li> </ul> |
|-----------------------------|--|

**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 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> |
| <b>Fire/Explosion Hazard</b> | <p>carbon dioxide (CO<sub>2</sub>)<br/>hydrogen chloride<br/>phosgene<br/>nitrogen oxides (NO<sub>x</sub>)<br/>other pyrolysis products typical of burning organic material.<br/>May emit poisonous fumes.</p>  |
| <b>HAZCHEM</b>               | 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

|                     |  |
|---------------------|--|
| <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> | <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>▶ 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>▶ <b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> <li>▶ <b>DO NOT enter confined spaces until atmosphere has been checked.</b></li> <li>▶ <b>DO NOT allow material to contact humans, exposed food or food utensils.</b></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> |
| <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> | <p>Supplied in 100L IBC, 110L Enviro or 20L drum</p> <ul style="list-style-type: none"> <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, there must be sufficient inert cushioning material in contact with inner and outer packages *.</p> <p>-</p> <p>In addition, where inner packagings are glass and contain liquids of packing group I and II there must be sufficient inert absorbent to absorb any spillage *.</p> <p>-</p> <p>* unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.</p> <p>All inner and sole packagings for substances that have been assigned to Packaging Groups I or II on the basis of inhalation toxicity criteria, must</p> |
|---------------------------|--|

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|                                |  |
|--------------------------------|--|
|                                | be hermetically sealed.                |
| <b>Storage incompatibility</b> | ▶ Avoid reaction with oxidising agents |

## SECTION 8 Exposure controls / personal protection

## Control parameters

## Occupational Exposure Limits (OEL)

## INGREDIENT DATA

Not Available

## Emergency Limits

| Ingredient          | TEEL-1                 | TEEL-2                | TEEL-3                |
|---------------------|------------------------|-----------------------|-----------------------|
| paraquat dichloride | 0.15 mg/m <sup>3</sup> | 1.6 mg/m <sup>3</sup> | 9.6 mg/m <sup>3</sup> |


| Ingredient          | Original IDLH       | Revised IDLH  |
|---------------------|---------------------|---------------|
| paraquat dichloride | 1 mg/m <sup>3</sup> | Not Available |
| water               | Not Available       | Not Available |

## Occupational Exposure Banding

| Ingredient          | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|---------------------|-----------------------------------|----------------------------------|
| paraquat dichloride | E                                 | ≤ 0.1 ppm                        |

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

## Exposure controls

| <b>Appropriate engineering controls</b>   | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. 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>Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. An approved self contained breathing apparatus (SCBA) may be required in some situations.</p> <p>Provide adequate ventilation in warehouse or closed storage area. 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   |                      |            |  |                                 |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| <b>Personal protection</b>  |   |                      |            |  |                                 |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |
| <b>Eye and face protection</b>  | <ul style="list-style-type: none"> <li>▶ Safety glasses with unperforated side shields may be used where continuous eye protection is desirable, as in laboratories; spectacles are not sufficient where complete eye protection is needed such as when handling bulk-quantities, where there is a danger of splashing, or if the material may be under pressure.</li> <li>▶ Chemical goggles whenever there is a danger of the material coming in contact with the eyes; goggles must be properly fitted.</li> <li>▶ Full face shield (20 cm, 8 in minimum) may be required for supplementary but never for primary protection of eyes; these afford face protection.</li> <li>▶ Alternatively a gas mask may replace splash goggles and face shields.</li> </ul>   |                      |            |  |                                 |   |                            |  |                            |  |                                 |                        |                        |   |                                 |  |                                  |                                  |                               |   |                                  |

Continued...

## Smart Paraquat 250 Herbicide

|                              |  |
|------------------------------|--|
|                              | <ul style="list-style-type: none"> <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>  |
| <b>Skin protection</b>       | See Hand protection below  |
| <b>Hands/feet protection</b> | <ul style="list-style-type: none"> <li>▶ Elbow length PVC gloves</li> </ul> <p>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.</p> <p>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.</p> <p>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.</p> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"> <li>· frequency and duration of contact,</li> <li>· chemical resistance of glove material,</li> <li>· glove thickness and</li> <li>· dexterity</li> </ul> <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"> <li>· 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.</li> <li>· 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.</li> <li>· Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.</li> <li>· Contaminated gloves should be replaced.</li> </ul> <p>As defined in ASTM F-739-96 in any application, gloves are rated as:</p> <ul style="list-style-type: none"> <li>· Excellent when breakthrough time &gt; 480 min</li> <li>· Good when breakthrough time &gt; 20 min</li> <li>· Fair when breakthrough time &lt; 20 min</li> <li>· Poor when glove material degrades</li> </ul> <p>For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.</p> <p>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.</p> <p>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.</p> <p>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:</p> <ul style="list-style-type: none"> <li>· 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.</li> <li>· 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</li> </ul> <p>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.</p> |
| <b>Body protection</b>       | See Other protection below   |
| <b>Other protection</b>      | <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ Eyewash unit.</li> <li>▶ Barrier cream.</li> <li>▶ Skin cleansing cream.</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:

Smart Paraquat 250 Herbicide

| Material       | CPI |
|----------------|-----|
| BUTYL          | A   |
| NEOPRENE       | A   |
| VITON          | A   |
| NATURAL RUBBER | C   |
| PVA            | 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.

## Respiratory protection

Type A-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   | A-AUS / Class1 P2    | -                    |
| up to 50                           | 1000   | -                    | A-AUS / Class 1 P2   |
| up to 50                           | 5000   | Airline *            | -                    |
| up to 100                          | 5000   | -                    | A-2 P2               |
| up to 100                          | 10000  | -                    | A-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)

▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.

▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is

## Smart Paraquat 250 Herbicide

not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.

- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

## SECTION 9 Physical and chemical properties

## Information on basic physical and chemical properties

|   |  |  |                |
|---|--|--|----------------|
| <b>Appearance</b>                                   | Clear dark blue liquid with Obnoxious odor; 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 Available  |
| <b>pH (as supplied)</b>                             | Not Available  | <b>Decomposition temperature</b>               | Not Available  |
| <b>Melting point / freezing point (°C)</b>          | 0  | <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 Available  | <b>Surface Tension (dyn/cm or mN/m)</b>        | Not Available  |
| <b>Lower Explosive Limit (%)</b>                    | Not Available  | <b>Volatile Component (%vol)</b>               | Not Available  |
| <b>Vapour pressure (kPa)</b>                        | Not Available  | <b>Gas group</b>                               | Not Available  |
| <b>Solubility in water</b>                          | Miscible   | <b>pH as a solution (Not Available%)</b>       | 4.0 - 6.0      |
| <b>Vapour density (Air = 1)</b>                     | <1   | <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

## Information on toxicological effects

|                     |  |
|---------------------|--|
| <b>Inhaled</b>      | <p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce severely toxic effects; these may be fatal.</p> <p>There is strong evidence to suggest that this material can cause, if inhaled once, very serious, irreversible damage of organs.</p> <p>The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.</p> <p>Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.</p> <p>Inhalation of mists, dusts or fumes containing bipyridyliums may produce coughing, shortness of breath, nosebleed and pulmonary oedema. Lung scarring may also occur.</p>  |
| <b>Ingestion</b>    | <p>There is strong evidence to suggest that this material can cause, if swallowed once, very serious, irreversible damage of organs.</p> <p>Bipyridiniums are <b>highly corrosive and toxic</b>; if ingested, they cause severe corrosive damage, liver and kidney injury, and may be lethal due to respiratory or cardiovascular effects. Exposure can cause slowing of heart rate, nosebleeds, irregular heartbeat, lethargy, headache, depression and coma.</p> <p><b>Severely toxic effects</b> may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 5 gram may be fatal or may produce serious damage to the health of the individual.</p>   |
| <b>Skin Contact</b> | <p>This material can cause inflammation of the skin on contact in some persons.</p> <p>There is strong evidence to suggest that this material, on a single contact with skin, can cause very serious, irreversible damage of organs.</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Direct skin contact with bipyridyliums can cause redness, blisters, ulcers, nail changes, dryness, irritation and inflammation as well as cyanosis and jaundice. Extended exposures are associated with more severe symptoms and lesions.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Toxic effects may result from skin absorption</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> <p>Exposure limits with "skin" notation indicate that vapour and liquid may be absorbed through intact skin. Absorption by skin may readily exceed</p> |



## Smart Paraquat 250 Herbicide

|                                     |   |                              |
|-------------------------------------|---|------------------------------|
|                                     | vapour inhalation exposure.   |                              |
| <b>Eye</b>                          | If applied to the eyes, this material causes severe eye damage.<br>Direct eye contact with bipyridylum compounds may produce chemical conjunctivitis and severe eye injury resembling corrosive injuries. Permanent corneal scarring is possible. Severe inflammation may be evident, reaching a maximum intensity in 12 to 24 hours. Loss of corneal epithelium and the superficial layers of the cornea may occur early. Recovery is generally complete given proper care. Systemic signs have not been reported from this route of exposure.                                   |                              |
| <b>Chronic</b>                      | Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. 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.<br>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. |                              |
| <b>Smart Paraquat 250 Herbicide</b> | <b>TOXICITY</b>   | <b>IRRITATION</b>            |
|                                     | Not Available   | Not Available                |
| <b>paraquat dichloride</b>          | <b>TOXICITY</b>   | <b>IRRITATION</b>            |
|                                     | dermal (rat) LD50: 80 mg/kg <sup>[2]</sup>  | Eye (rabbit): 12.5 mg SEVERE |
|                                     | Inhalation(Rat) LC50; <0.001 mg/L4h <sup>[1]</sup>  | Eye (rabbit): 25 mg - mild   |
|                                     | Oral (Guinea) LD50; 22 mg/kg <sup>[2]</sup>   |                              |
| <b>water</b>                        | <b>TOXICITY</b>   | <b>IRRITATION</b>            |
|                                     | 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  |                              |

|   |   |
|---|---|
| <b>PARAQUAT DICHLORIDE</b>                                    | Changed recordings from specific areas of brain and coverings, somnolence, convulsions, excitement, emphysema, interstitial fibrosis, acute pulmonary oedema, chronic pulmonary oedema, dyspnea, respiratory stimulation, ulceration and bleeding of the stomach, diarrhoea, nausea, vomiting, liver changes, gastrointestinal and liver changes, changes in kidney tubules and glomeruli) decreased urine volume, cutaneous sensitisation after topical application, effects on fertility, specific developmental (musculoskeletal system) recorded.<br>The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.   |
| <b>Smart Paraquat 250 Herbicide &amp; PARAQUAT DICHLORIDE</b> | 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. |
| <b>Smart Paraquat 250 Herbicide &amp; WATER</b>               | No significant acute toxicological data identified in literature search.  |

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

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

## SECTION 12 Ecological information

## Toxicity

|                                     | Endpoint        | Test Duration (hr)        | Species                       | Value          | Source        |
|-------------------------------------|-----------------|---------------------------|-------------------------------|----------------|---------------|
| <b>Smart Paraquat 250 Herbicide</b> | Not Available   | Not Available             | Not Available                 | Not Available  | Not Available |
| <b>paraquat dichloride</b>          | <b>Endpoint</b> | <b>Test Duration (hr)</b> | <b>Species</b>                | <b>Value</b>   | <b>Source</b> |
|                                     | BCF             | 1008h                     | Fish                          | <0.2-0.3       | 7             |
|                                     | NOEC(ECx)       | 168h                      | Algae or other aquatic plants | <0.001mg/l     | 4             |
|                                     | LC50            | 96h                       | Fish                          | 5.13-27.31mg/l | 4             |
|                                     | EC50            | 72h                       | Algae or other aquatic plants | 0.067mg/L      | 4             |
|                                     | EC50            | 48h                       | Crustacea                     | 1.01-1.485mg/L | 4             |
|                                     | EC50            | 96h                       | Algae or other aquatic plants | <0.001mg/L     | 4             |
| <b>water</b>                        | <b>Endpoint</b> | <b>Test Duration (hr)</b> | <b>Species</b>                | <b>Value</b>   | <b>Source</b> |

Continued...



## Smart Paraquat 250 Herbicide

|                |  |               |               |               |               |
|----------------|--|---------------|---------------|---------------|---------------|
|                | Not Available  | Not Available | Not Available | Not Available | Not Available |
| <b>Legend:</b> | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data |               |               |               |               |

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

The cationic pesticides, notably diquat and paraquat, are readily soluble and dissociate in aqueous solution. In water they biodegrade rapidly with half-life figures of about 50 days. However they are strongly adsorbed to soil particles by cation exchange mechanisms. As soil-bound residues they are resistant to microbial degradation and photo-decomposition and therefore persist indefinitely, but they are biologically inactive in this form. Rates of loss of adsorbed pesticide have typically been estimated as 10% per year which results in a field half-life of 6.6 years. They are nonvolatile and are not transported in the vapour phase. Environmental transport of these residues occurs with sediment transport processes. Cationic substances, and their polymers and those polymers that are reasonably anticipated to become cationic in the natural aquatic environment (pH range 4-9) may be environmental hazards. Exempt from this concern are those polymers to be used only in solid phase, such as ion-exchange resins, and where the FGEW of cationic groups is not 5000 and above. Cationic groups such as alkylsulfoniums, alkylphosphoniums and quaternary ammonium polymers are highly toxic to fish and other aquatic organisms. Similarly potentially cationic groups such as amines and isocyanates are of concern. Some cationics, however, may fall into the category of PLCs (polymers of low concern) provided they possess low charge density, and/or are not water-soluble or are not self-dispersing polycarboxylates or poly- (aromatic or aliphatic) sulfonate polymer.

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

## Persistence and degradability

| Ingredient          | Persistence: Water/Soil | Persistence: Air |
|---------------------|-------------------------|------------------|
| paraquat dichloride | HIGH                    | HIGH             |
| water               | LOW                     | LOW              |

## Bioaccumulative potential

| Ingredient          | Bioaccumulation |
|---------------------|-----------------|
| paraquat dichloride | LOW (BCF = 1.9) |

## Mobility in soil

| Ingredient          | Mobility          |
|---------------------|-------------------|
| paraquat dichloride | LOW (KOC = 652.4) |


## SECTION 13 Disposal considerations

## Waste treatment methods

|                                     |   |
|-------------------------------------|---|
| <b>Product / Packaging disposal</b> | <ul style="list-style-type: none"> <li>▶ Containers may still present a chemical hazard/ danger when empty.</li> <li>▶ Return to supplier for reuse/ recycling if possible.</li> </ul> <p>Otherwise:</p> <ul style="list-style-type: none"> <li>▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.</li> <li>▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product.</li> </ul> <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> <li>▶ Reduction</li> <li>▶ Reuse</li> <li>▶ Recycling</li> <li>▶ Disposal (if all else fails)</li> </ul> <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. 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 or consult manufacturer for recycling options.</li> <li>▶ Consult State Land Waste Authority for disposal.</li> <li>▶ Bury or incinerate residue at an approved site.</li> <li>▶ Recycle containers if possible, or dispose of in an authorised landfill.</li> </ul> |
|-------------------------------------|---|

## SECTION 14 Transport information

## Labels Required

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

Smart Paraquat 250 Herbicide

|                         |   |
|-------------------------|---|
| <b>Marine Pollutant</b> |  |
| <b>HAZCHEM</b>          | 2X  |

**Land transport (ADG)**

|                                     |                                       |                |
|-------------------------------------|---------------------------------------|----------------|
| <b>UN number</b>                    | 3016                                  |                |
| <b>UN proper shipping name</b>      | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC |                |
| <b>Transport hazard class(es)</b>   | Class                                 | 6.1            |
|                                     | Subrisk                               | Not Applicable |
| <b>Packing group</b>                | II                                    |                |
| <b>Environmental hazard</b>         | Environmentally hazardous             |                |
| <b>Special precautions for user</b> | Special provisions                    | 61 274         |
|                                     | Limited quantity                      | 100 ml         |

**Air transport (ICAO-IATA / DGR)**

|  |   |                |
|--|---|----------------|
| <b>UN number</b>                               | 3016  |                |
| <b>UN proper shipping name</b>                 | Bipyridilium pesticide, liquid, toxic *                   |                |
| <b>Transport hazard class(es)</b>              | ICAO/IATA Class   | 6.1            |
|  | ICAO / IATA Subrisk                                       | Not Applicable |
|  | ERG Code  | 6L             |
| <b>Packing group</b>                           | II  |                |
| <b>Environmental hazard</b>                    | Environmentally hazardous                                 |                |
| <b>Special precautions for user</b>            | Special provisions  | A3 A4          |
|  | Cargo Only Packing Instructions                           | 662            |
|  | Cargo Only Maximum Qty / Pack                             | 60 L           |
|  | Passenger and Cargo Packing Instructions                  | 654            |
|  | Passenger and Cargo Maximum Qty / Pack                    | 5 L            |
|  | Passenger and Cargo Limited Quantity Packing Instructions | Y641           |
| Passenger and Cargo Limited Maximum Qty / Pack | 1 L   |                |

**Sea transport (IMDG-Code / GGVSee)**

|                                     |                                       |                |
|-------------------------------------|---------------------------------------|----------------|
| <b>UN number</b>                    | 3016                                  |                |
| <b>UN proper shipping name</b>      | BIPYRIDILIUM PESTICIDE, LIQUID, TOXIC |                |
| <b>Transport hazard class(es)</b>   | IMDG Class                            | 6.1            |
|                                     | IMDG Subrisk                          | Not Applicable |
| <b>Packing group</b>                | II                                    |                |
| <b>Environmental hazard</b>         | Marine Pollutant                      |                |
| <b>Special precautions for user</b> | EMS Number                            | F-A, S-A       |
|                                     | Special provisions                    | 61 274         |
|                                     | Limited Quantities                    | 100 mL         |

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

Not Applicable

**Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code**

| Product name        | Group         |
|---------------------|---------------|
| paraquat dichloride | Not Available |
| water               | Not Available |

**Transport in bulk in accordance with the ICG Code**

| Product name        | Ship Type     |
|---------------------|---------------|
| paraquat dichloride | Not Available |
| water               | Not Available |

**SECTION 15 Regulatory information**

**Safety, health and environmental regulations / legislation specific for the substance or mixture****paraquat dichloride is found on the following regulatory lists**

Australia Chemicals with non-industrial uses removed from the Australian Inventory of Chemical Substances (old Inventory)

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 7

**water is found on the following regulatory lists**

Australian Inventory of Industrial Chemicals (AIIC)

**National Inventory Status**

| National Inventory                              | Status  |
|---|---|
| Australia - AIIC / Australia Non-Industrial Use | Yes   |
| Canada - DSL                                    | No (paraquat dichloride)  |
| Canada - NDSL                                   | No (paraquat dichloride; water)   |
| China - IECSC                                   | Yes   |
| Europe - EINEC / ELINCS / NLP                   | Yes   |
| Japan - ENCS                                    | Yes   |
| Korea - KECI                                    | Yes   |
| New Zealand - NZIoC                             | Yes   |
| Philippines - PICCS                             | Yes   |
| USA - TSCA                                      | No (paraquat dichloride)  |
| Taiwan - TCSI                                   | Yes   |
| Mexico - INSQ                                   | Yes   |
| Vietnam - NCI                                   | Yes   |
| Russia - FBEPH                                  | No (paraquat dichloride)  |
| <b>Legend:</b>                                  | Yes = All CAS declared ingredients are on the inventory<br>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration. |

**SECTION 16 Other information**

|                      |            |
|----------------------|------------|
| <b>Revision Date</b> | 18/03/2022 |
| <b>Initial Date</b>  | 18/03/2022 |

**SDS Version Summary**

| Version | Date of Update | Sections Updated  |
|---------|----------------|---|
| 2.1     | 18/03/2022     | Classification, Storage (suitable container), Transport Information |

**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  
 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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