

# Titan Propyzamide 500 SC (Titan Propyzamide 500 SC Herbicide)

## Titan Ag

Chemwatch: 37-95907

Version No: 3.1

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

Chemwatch Hazard Alert Code: 2

Initial Date: 14/05/2026

Revision Date: 04/06/2026

Print Date: 09/06/2026

L.GHS.AUS.EN.E

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

### Product Identifier

|                               |                                                                            |
|-------------------------------|----------------------------------------------------------------------------|
| Product name                  | Titan Propyzamide 500 SC (Titan Propyzamide 500 SC Herbicide)              |
| Chemical Name                 | Not Applicable                                                             |
| Synonyms                      | Not Available                                                              |
| Proper shipping name          | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains propyzamide) |
| 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 | Agricultural herbicide.<br>Use according to manufacturer's directions. |
|--------------------------|------------------------------------------------------------------------|

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

|                         |                                                                              |
|-------------------------|------------------------------------------------------------------------------|
| Registered company name | Titan Ag                                                                     |
| Address                 | Princes Street Marina, Suite 15/16 Princes Street Newport NSW 2106 Australia |
| Telephone               | +61 2 9999 6655                                                              |
| Fax                     | +61 2 9999 0483                                                              |
| Website                 | <a href="https://www.titanag.com.au/">https://www.titanag.com.au/</a>        |
| Email                   | titanorders@titanag.com.au                                                   |

### Emergency telephone number

|                                     |                         |
|-------------------------------------|-------------------------|
| Association / Organisation          | Titan Ag                |
| Emergency telephone number(s)       | 1800 033 111 (24 hours) |
| Other emergency telephone number(s) | Not Available           |

## SECTION 2 Hazards identification

### Classification of the substance or mixture

|                               |                                                                                                                                                                                                            |
|-------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Poisons Schedule              | S5                                                                                                                                                                                                         |
| Classification <sup>[1]</sup> | Serious Eye Damage/Eye Irritation Category 2A, Carcinogenicity Category 2, Specific Target Organ Toxicity - Repeated Exposure Category 2, 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         | Warning                                                                             |

### Hazard statement(s)

|      |                                                                    |
|------|--------------------------------------------------------------------|
| H319 | Causes serious eye irritation.                                     |
| H351 | Suspected of causing cancer.                                       |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H410 | Very toxic to aquatic life with long lasting effects.              |

### Precautionary statement(s) Prevention

|      |                                   |
|------|-----------------------------------|
| P261 | Do not breathe mist/vapours/spray |
|------|-----------------------------------|

|      |                                                                                  |
|------|----------------------------------------------------------------------------------|
| P200 | Do not breathe mist/vapours/spray.                                               |
| P280 | Wear protective gloves, protective clothing, eye protection and face protection. |
| P273 | Avoid release to the environment.                                                |
| P202 | Do not handle until all safety precautions have been read and understood.        |
| P264 | Wash all exposed external body areas thoroughly after handling.                  |

Precautionary statement(s) Response

|                |                                                                                                                                  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------|
| P308+P313      | IF exposed or concerned: Get medical advice/ attention.                                                                          |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P314           | Get medical advice/attention if you feel unwell.                                                                                 |
| P337+P313      | If eye irritation persists: Get medical advice/attention.                                                                        |
| P391           | Collect spillage.                                                                                                                |

Precautionary statement(s) Storage

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

Precautionary statement(s) Disposal

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

No further product hazard information.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

| CAS No     | %[weight]                                                                                                                                                                                    | Name            |
|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|
| 23950-58-5 | 40-50                                                                                                                                                                                        | propyzamide     |
| 107-21-1   | <5                                                                                                                                                                                           | ethylene glycol |
| 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

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye Contact  | <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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Skin Contact | <p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"><li>▶ Quickly but gently, wipe material off skin with a dry, clean cloth.</li><li>▶ Immediately remove all contaminated clothing, including footwear.</li><li>▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</li><li>▶ Transport to hospital, or doctor.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 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.

SECTION 5 Firefighting measures

## Titan Propyzamide 500 SC (Titan Propyzamide 500 SC Herbicide)

## Extinguishing media

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

## Special hazards arising from the substrate or mixture

|                             |                                                                                                                                          |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fire Incompatibility</b> | ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|

## 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 water delivered as a fine spray to control fire and cool adjacent area.</li> <li>▶ Avoid spraying water onto liquid pools.</li> <li>▶ <b>DO NOT</b> approach containers suspected to be hot.</li> <li>▶ Cool fire exposed containers with water spray from a protected location.</li> <li>▶ If safe to do so, remove containers from path of fire.</li> </ul>                                             |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Combustible.</li> <li>▶ Slight fire hazard when exposed to heat or flame.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ On combustion, may emit toxic fumes of carbon monoxide (CO).</li> <li>▶ May emit acrid smoke.</li> <li>▶ Mists containing combustible materials may be explosive.</li> </ul> <p>Combustion products include:</p> <ul style="list-style-type: none"> <li>▶ carbon dioxide (CO<sub>2</sub>)</li> <li>hydrogen chloride</li> <li>phosgene</li> <li>nitrogen oxides (NO<sub>x</sub>)</li> <li>▶ other pyrolysis products typical of burning organic material.</li> </ul> |
| <b>HAZCHEM</b>               | •3Z                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

## 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> | <p>Environmental hazard - contain spillage.</p> <ul style="list-style-type: none"> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Control personal contact with the substance, by using protective equipment.</li> <li>▶ Contain and absorb spill with sand, earth, inert material or vermiculite.</li> <li>▶ Wipe up.</li> <li>▶ Place in a suitable, labelled container for waste disposal.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Major Spills</b> | <p>Environmental hazard - contain spillage.<br/>Moderate hazard.</p> <ul style="list-style-type: none"> <li>▶ Clear area of personnel and move upwind.</li> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water course.</li> <li>▶ No smoking, naked lights or ignition sources.</li> <li>▶ Increase ventilation.</li> <li>▶ Stop leak if safe to do so.</li> <li>▶ Contain spill with sand, earth or vermiculite.</li> <li>▶ Collect recoverable product into labelled containers for recycling.</li> <li>▶ Absorb remaining product with sand, earth or vermiculite.</li> <li>▶ Collect solid residues and seal in labelled drums for disposal.</li> <li>▶ Wash area and prevent runoff into drains.</li> <li>▶ If contamination of drains or waterways occurs, advise emergency services.</li> </ul> |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

## Precautions for safe handling

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Safe handling</b> | <ul style="list-style-type: none"> <li>▶ Avoid skin 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>▶ Avoid smoking, naked lights or ignition sources.</li> <li>▶ Avoid contact with incompatible materials.</li> <li>▶ When handling, <b>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.</li> <li>▶ Use good occupational work practice.</li> <li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul> |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Continued...

Titan Propyzamide 500 SC (Titan Propyzamide 500 SC Herbicide)

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                   | ► Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.                                                                                                                                                                                                                                                                                                                                                                    |
| Other information | <div>► Store in original containers.</div> <div>► Keep containers securely sealed.</div> <div>► No smoking, naked lights or ignition sources.</div> <div>► Store in a cool, dry, well-ventilated area.</div> <div>► Store away from incompatible materials and foodstuff containers.</div> <div>► Protect containers against physical damage and check regularly for leaks.</div> <div>► Observe manufacturer's storage and handling recommendations contained within this SDS.</div> |

Conditions for safe storage, including any incompatibilities

|                         |                                                                                                                                                                   |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable container      | <div>► Metal can or drum</div> <div>► Packaging as recommended by manufacturer.</div> <div>► Check all containers are clearly labelled and free from leaks.</div> |
| Storage incompatibility | ► Avoid reaction with oxidising agents                                                                                                                            |

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

| Source                                                                                                                                             | Ingredient      | Material name                 | TWA               | STEL               | Peak          | Notes         |
|----------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|-------------------------------|-------------------|--------------------|---------------|---------------|
| Australia Exposure Standards                                                                                                                       | ethylene glycol | Ethylene glycol (vapour)      | 20 ppm / 52 mg/m3 | 104 mg/m3 / 40 ppm | Not Available | Not Available |
| Australia Exposure Standards                                                                                                                       | ethylene glycol | Ethylene glycol (particulate) | 10 mg/m3          | Not Available      | Not Available | Not Available |
| Australia Workplace exposure limits for airborne contaminants (WEL list) (Effective from 1 December 2026) - Appendix A - Workplace Exposure Limits | ethylene glycol | Ethylene glycol (vapour)      | 20 ppm / 52 mg/m3 | 104 mg/m3 / 40 ppm | Not Available | Not Available |
| Australia Workplace exposure limits for airborne contaminants (WEL list) (Effective from 1 December 2026) - Appendix A - Workplace Exposure Limits | ethylene glycol | Ethylene glycol (particulate) | Not Available     | 10 mg/m3           | Not Available | Not Available |

MATERIAL DATA

Exposure controls

|                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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---------------------|----------------------------------|-------------------------------|-------------------------------------------|----------------------------------|
| Appropriate engineering controls                                                                                                                                                                                    | <div>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:<br/>Process controls which involve changing the way a job activity or process is done to reduce the risk.<br/>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.<br/>Employers may need to use multiple types of controls to prevent employee overexposure.</div> <div>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.<br/>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.</div> <table><tr><td>Type of Contaminant:</td><td>Air Speed:</td></tr><tr><td>solvent, vapours, degreasing etc., evaporating from tank (in still air).</td><td>0.25-0.5 m/s (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 (500-2000 f/min.)</td></tr></table> <div>Within each range the appropriate value depends on:<table><tr><td>Lower end of the range</td><td>Upper end of the range</td></tr><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></table></div> <div>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.</div> | Type of Contaminant: | Air Speed: | solvent, vapours, degreasing etc., evaporating from tank (in still air). | 0.25-0.5 m/s (50-100 f/min.) | aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation) | 0.5-1 m/s (100-200 f/min.) | direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion) | 1-2.5 m/s (200-500 f/min.) | grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion). | 2.5-10 m/s (500-2000 f/min.) | 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:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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                |                                  |                               |                                           |                                  |
| solvent, vapours, degreasing etc., evaporating from tank (in still air).                                                                                                                                            | 0.25-0.5 m/s (50-100 f/min.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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                |                                  |                               |                                           |                                  |
| 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.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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                |                                  |                               |                                           |                                  |
| 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.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       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                |                                  |                               |                                           |                                  |
| grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).                                                                | 2.5-10 m/s (500-2000 f/min.)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     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| Lower end of the range                                                                                                                                                                                              | Upper end of the range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           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                |                                  |                               |                                           |                                  |
| 1: Room air currents minimal or favourable to capture                                                                                                                                                               | 1: Disturbing room air currents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  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                |                                  |                               |                                           |                                  |
| 2: Contaminants of low toxicity or of nuisance value only.                                                                                                                                                          | 2: Contaminants of high toxicity                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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                |                                  |                               |                                           |                                  |
| 3: Intermittent, low production.                                                                                                                                                                                    | 3: High production, heavy use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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                |                                  |                               |                                           |                                  |
| 4: Large hood or large air mass in motion                                                                                                                                                                           | 4: Small hood-local control only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 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                |                                  |                               |                                           |                                  |
| Individual protection measures, such as personal protective equipment                                                                                                                                               | <div></div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                      |            |                                                                          |                              |                                                                                                                                                                                                                     |                            |                                                                                                                                                                |                            |                                                                                                                                                      |                              |                        |                        |                                                       |                                 |                                                            |                                  |                                  |                               |                                           |                                  |

## Titan Propyzamide 500 SC (Titan Propyzamide 500 SC Herbicide)

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|--------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Eye and face protection</b> | <ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.[AS/NZS 1337.1, EN166 or national equivalent]</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59].</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Skin protection</b>         | See Hand protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Hands/feet protection</b>   | <ul style="list-style-type: none"> <li>▶ Wear chemical protective gloves, e.g. PVC.</li> <li>▶ Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul> <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>▶ P.V.C apron.</li> <li>▶ Barrier cream.</li> <li>▶ Skin cleansing cream.</li> <li>▶ Eye wash unit.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

## Recommended material(s)

## GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

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

Titan Propyzamide 500 SC (Titan Propyzamide 500 SC Herbicide)

| Material         | CPI |
|------------------|-----|
| PE/EVAL/PE       | A   |
| NATURAL RUBBER   | C   |
| NATURAL+NEOPRENE | C   |
| NEOPRENE         | C   |
| NEOPRENE/NATURAL | C   |
| NITRILE          | C   |
| NITRILE+PVC      | C   |
| PVA              | C   |
| PVC              | C   |
| TEFLON           | C   |

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

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

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

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

## Respiratory protection

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

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

| Required Minimum Protection Factor | Half-Face Respirator | Full-Face Respirator | Powered Air Respirator  |
|------------------------------------|----------------------|----------------------|-------------------------|
| up to 10 x ES                      | A-AUS P2             | -                    | A-PAPR-AUS / Class 1 P2 |
| up to 50 x ES                      | -                    | A-AUS / Class 1 P2   | -                       |
| up to 100 x ES                     | -                    | A-2 P2               | A-PAPR-2 P2 ^           |

^ - Full-face

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(SO2), G = Agricultural chemicals, K = Ammonia(NH3), 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 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%,

Continued...

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

in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

Ansell Glove Selection

|                                    |
|------------------------------------|
| Glove — In order of recommendation |
| AlphaTec 02-100                    |
| AlphaTec® Solvex® 37-185           |
| AlphaTec® 58-008                   |
| TouchNTuff® 83-500                 |
| AlphaTec® 15-554                   |
| MICROFLEX® 93-260                  |
| AlphaTec® 38-612                   |
| AlphaTec® 58-530B                  |
| AlphaTec® 58-530W                  |
| AlphaTec® 58-735                   |

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

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

|                                                |                                                               |                                                     |                |
|------------------------------------------------|---------------------------------------------------------------|-----------------------------------------------------|----------------|
| Appearance                                     | Light brown viscous liquid with mild odour; mixes with water. |                                                     |                |
| Physical state                                 | Liquid                                                        | Relative density (Water = 1)                        | 1.14-1.2       |
| Odour                                          | Not Available                                                 | Partition coefficient n-octanol / water             | Not Available  |
| Odour threshold                                | Not Available                                                 | Auto-ignition temperature (°C)                      | Not Available  |
| pH (as supplied)                               | ~7                                                            | Decomposition temperature (°C)                      | Not Available  |
| Melting point / freezing point (°C)            | ~0                                                            | Viscosity (cSt)                                     | Not Available  |
| Initial boiling point and boiling range (°C)   | ~100                                                          | Molecular weight (g/mol)                            | Not Applicable |
| Flash point (°C)                               | Not Available                                                 | Taste                                               | Not Available  |
| Evaporation rate                               | Not Available                                                 | Explosive properties                                | Not Available  |
| Flammability                                   | Not Applicable                                                | Oxidising properties                                | Not Available  |
| Upper Explosive Limit (%)                      | Not Available                                                 | Surface Tension (dyn/cm or mN/m)                    | Not Available  |
| Lower Explosive Limit (%)                      | Not Available                                                 | Volatile Component (%vol)                           | Not Available  |
| Vapour pressure (kPa)                          | *2.37 @ 20 C (water)                                          | Gas group                                           | Not Available  |
| Solubility in water                            | Partly miscible                                               | pH as a solution (1%)                               | Not Available  |
| Vapour density (Air = 1)                       | Not Available                                                 | VOC g/L                                             | Not Available  |
| Heat of Combustion (kJ/g)                      | Not Available                                                 | Ignition Distance (cm)                              | Not Available  |
| Flame Height (cm)                              | Not Available                                                 | Flame Duration (s)                                  | Not Available  |
| Enclosed Space Ignition Time Equivalent (s/m3) | Not Available                                                 | Enclosed Space Ignition Deflagration Density (g/m3) | Not Available  |

SECTION 10 Stability and reactivity

|                                    |                                                                                                                                                                                                  |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reactivity                         | See section 7                                                                                                                                                                                    |
| Chemical stability                 | <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> |
| 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

|                                      |                                                                                      |
|--------------------------------------|--------------------------------------------------------------------------------------|
| a) Acute Toxicity                    | Based on available data, the classification criteria are not met.                    |
| b) Skin Irritation/Corrosion         | Based on available data, the classification criteria are not met.                    |
| c) Serious Eye Damage/Irritation     | There is sufficient evidence to classify this material as eye damaging or irritating |
| d) Respiratory or Skin sensitisation | Based on available data, the classification criteria are not met.                    |

## Titan Propyzamide 500 SC (Titan Propyzamide 500 SC Herbicide)

|                             |                                                                                                              |
|-----------------------------|--------------------------------------------------------------------------------------------------------------|
| e) Mutagenicity             | Based on available data, the classification criteria are not met.                                            |
| f) Carcinogenicity          | There is sufficient evidence to classify this material as carcinogenic                                       |
| g) Reproductivity           | Based on available data, the classification criteria are not met.                                            |
| h) STOT - Single Exposure   | Based on available data, the classification criteria are not met.                                            |
| i) STOT - Repeated Exposure | There is sufficient evidence to classify this material as toxic to specific organs through repeated exposure |
| j) Aspiration Hazard        | Based on available data, the classification criteria are not met.                                            |

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhaled      | Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce serious damage to the health of the individual.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Ingestion    | The material has <b>NOT</b> been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Skin Contact | Open cuts, abraded or irritated skin should not be exposed to this material<br>Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Eye          | This material causes serious eye irritation.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Chronic      | On the basis, primarily, of animal experiments, concern has been expressed that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment. Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems.<br><br>Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. Serious damage (clear functional disturbance or morphological change which may have toxicological significance) is likely to be caused by repeated or prolonged exposure. As a rule the material produces, or contains a substance which produces severe lesions. Such damage may become apparent following direct application in subchronic (90 day) toxicity studies or following sub-acute (28 day) or chronic (two-year) toxicity tests.<br><br>There is some evidence to provide a presumption that human exposure to the material may result in impaired fertility on the basis of: some evidence in animal studies of impaired fertility in the absence of toxic effects, or evidence of impaired fertility occurring at around the same dose levels as other toxic effects but which is not a secondary non-specific consequence of other toxic effects.<br>There is some evidence that human exposure to the material may result in developmental toxicity. This evidence is based on animal studies where effects have been observed in the absence of marked maternal toxicity, or at around the same dose levels as other toxic effects but which are not secondary non-specific consequences of the other toxic effects.<br>Exposure to the material for prolonged periods may cause physical defects in the developing embryo (teratogenesis). |

|                                                                  |                                                                                                |                                                                  |
|------------------------------------------------------------------|------------------------------------------------------------------------------------------------|------------------------------------------------------------------|
| Titan Propyzamide 500 SC<br>(Titan Propyzamide 500 SC Herbicide) | TOXICITY                                                                                       | IRRITATION                                                       |
|                                                                  | Not Available                                                                                  | Not Available                                                    |
| propyzamide                                                      | TOXICITY                                                                                       | IRRITATION                                                       |
|                                                                  | Dermal (rabbit) LD50: >3160 mg/kg <sup>[2]</sup><br>Oral (Rat) LD50: 5620 mg/kg <sup>[2]</sup> | Not Available                                                    |
| ethylene glycol                                                  | TOXICITY                                                                                       | IRRITATION                                                       |
|                                                                  | dermal (mouse) LD50: >3500 mg/kg <sup>[1]</sup>                                                | Eye (Rodent - rabbit): 0.012ppm/3D                               |
|                                                                  | Oral (Rat) LD50: >2000 mg/kg <sup>[2]</sup>                                                    | Eye (Rodent - rabbit): 100mg/1H - Mild                           |
|                                                                  |                                                                                                | Eye (Rodent - rabbit): 1440mg/6H - Moderate                      |
|                                                                  |                                                                                                | Eye (Rodent - rabbit): 500mg/24H - Mild                          |
|                                                                  |                                                                                                | Eye (Rodent - rat): 0.012%/3D                                    |
|                                                                  |                                                                                                | Eye: no adverse effect observed (not irritating) <sup>[1]</sup>  |
|                                                                  |                                                                                                | Skin (Rodent - rabbit): 555mg - Mild                             |
|                                                                  |                                                                                                | Skin: no adverse effect observed (not irritating) <sup>[1]</sup> |

**Legend:** 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances

|             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PROPYZAMIDE | <p>NOEL: (chronic studies) dogs 300, rats 200, mice 13 mg/kg diet * ADI 0.08 mg/kg * Toxicity Class WHO Table 5; EPA IV * for propyzamide (pronamide):</p> <ul style="list-style-type: none"> <li>▸ <b>Toxicity:</b> Pronamide is practically nontoxic via ingestion. The reported oral LD50 values for pronamide range from 5620 mg/kg in female rats to 8350 mg/kg in male rats, respectively, and 10,000 mg/kg in dogs. Pronamide is slightly toxic by skin exposure, with a dermal LD50 of greater than 3160 mg/kg. When applied to the skin of rabbits, it produced slight local irritation, but no systemic intoxication. The 4-hour inhalation LC50 for pronamide is greater than 5.0 mg/L, indicating slight toxicity by this route.</li> <li>▸ <b>Chronic toxicity:</b> When dogs were fed a diet containing pronamide for 3 months, decreases in weight gain and food consumption, changes in blood chemistry, and increased liver weights were observed at doses of 15 mg/kg/day. In a study in rats over 3 months, similar effects were seen at doses of over 10 mg/kg/day, and changes in thyroid, adrenal, and pituitary function were observed at 50 mg/kg/day. In a 2-year feeding study in dogs, the addition of pronamide to the diet at doses of 0.75, 2.5, or 7.5 mg/kg/day caused no adverse health effects at any of the doses tested.</li> <li>▸ <b>Reproductive effects:</b> When pregnant rabbits were given doses of 5, 20, or 80 mg/kg/day during days 7 to 19 of gestation (18 rabbits per dose), no effects on development or reproduction were observed at or below the 20 mg/kg dose. At 80 mg/kg, there was an increased incidence of liver lesions, one maternal death, five abortions, and a decrease in maternal and offspring weight gain. In a three-generation rat reproduction study, no effects on reproduction were observed at 300 ppm (15 mg/kg/day), the highest dose tested. It is unlikely that pronamide will have reproductive effects except at doses high enough to cause maternal toxicity.</li> <li>▸ <b>Teratogenic effects:</b> No teratogenic effects were found when doses as high as 15 mg/kg/day were administered to pregnant rabbits. This evidence suggests pronamide is not teratogenic.</li> <li>▸ <b>Mutagenic effects:</b> Mutagenicity tests on bacteria, mammalian cell cultures, and live animals have been negative. It appears pronamide is not mutagenic.</li> <li>▸ <b>Carcinogenic effects:</b> Pronamide caused liver tumors in mice after 2 years at doses of 10 mg/kg/day and above. In rats, doses of 50 mg/kg/day and above produced changes in ovary and liver structure and function, as well as thyroid and testicular effects. These data</li> </ul> |
|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

Continued...

## Titan Propyzamide 500 SC (Titan Propyzamide 500 SC Herbicide)

suggest that pronamide may have carcinogenic activity at sufficient doses.

- **Organ toxicity:** Target organs identified in animal studies include the liver, thyroid, and adrenal and pituitary glands.
- **Fate in humans and animals:** Pronamide is not readily absorbed into the bloodstream from the gastrointestinal tracts of rats and cows. After oral doses of Kerb to rats, 54% and 0.6% of the unmetabolised Kerb was recovered in feces and urine, respectively.

Unmetabolised Kerb did not appear in the urine of a cow treated orally with Kerb. Traces of pronamide were found in the milk of cows given feed that contained 5 ppm doses of a pronamide formulation. Pronamide has a low potential for bioaccumulation in animal tissues. Microtubules (MTs) are hollow cylindrical polymers composed of alpha-beta tubulin heterodimers. These highly dynamic assemblies organize the cytoplasm during interphase and form the mitotic spindle to segregate condensed chromosomes during mitosis. Microtubule organization shows a remarkable diversity in eukaryotes (organisms with a central cell nucleus), with striking differences in clades deriving from photosynthetic ancestors.

While alpha and beta-tubulin are highly conserved proteins, the effects of microtubule-binding drugs vary in organisms belonging to distinct evolutionary groups. For example, plant tubulin and Apicomplexan tubulins have a much lower affinity for colchicine than animal tubulin. In contrast, small synthetic molecules such as dinitroanilines (oryzalin, ethafluralin or trifluralin) bind specifically to plant and Apicomplexa tubulins but not vertebrate or fungi ones. Due to their selectivity towards plant tubulin, dinitroanilines have been used as herbicides for more than 40 years and represent promising leads for the design of antiparasite drug candidates in particular in the case of *P. falciparum* and *T. gondii*.

Besides dinitroanilines and their derivatives, no chemical entities that selectively target tubulin of plants and parasites have yet been described. This is not the case for mammalian tubulin, which is the target of numerous diverse chemical compounds.

Whilst mammalian microtubules are resistant to dinitroaniline herbicides, the sequences of alpha-tubulin from plants and animals show significant homology. Molecular modeling of plant alpha/beta tubulin dimer indicates a likely dinitroaniline binding site in the area of dimer-to-dimer contact. The resistance of plants to dinitroaniline herbicides (such as trifluralin and oryzalin) has been found to be caused by a Thr239 mutation of alpha-tubulin. The Thr239 residue is located near the end of the long central helix H7, and is positioned close to the site that interacts with the beta-tubulin of the next dimer in the microtubule protofilament. Therefore, alpha-tubulin residues near the interface of beta-tubulin appear to provide a binding site for structurally unrelated alpha-tubulin inhibitors, and some mutations in this region appear to lead to resistance to the inhibitors. The microtubules of some protozoan species are also susceptible to disruption by dinitroaniline herbicides. The tubulin from the protozoan *Plasmodium falciparum* contains a dinitroaniline/phosphorothioamide-binding site that is not conserved in humans and might be a target for new antimalarial drugs.

Animal microtubules are anchored on a structured microtubule-organizing center such as the centrosome, or in many differentiated animal cells they are arranged in non-centrosomal arrays that are non-radial. In contrast, in vascular plant cells that lack a structurally defined microtubule-organizing center, interphase MTs are always organized into linear bundles that assume different configurations depending on the cell type. In Apicomplexa single-celled eukaryotes (protozoan parasites such as *Toxoplasma gondii*), deriving from photosynthetic ancestors, although now lacking photosynthesis, microtubule organization varies during the parasite life cycle. At the tachyzoite replicative stage, a corset of 22 evenly spaced sub-pellicular microtubules, anchored to the apical polar ring, critically directs the polarized and elongated shape of the zoite. In addition, this parasite builds an unusual microtubule-containing structure at the apical tip, which is named conoid. In *Plasmodium falciparum*, a longitudinally oriented array of two–three sub-pellicular microtubules contributes to the shape and integrity of the parasite.

[\* *The Pesticides Manual, Incorporating The Agrochemicals Handbook, 10th Edition, Editor Clive Tomlin, 1994, British Crop Protection Council*]

## ETHYLENE GLYCOL

[Estimated Lethal Dose (human) 100 ml; RTECS quoted by Orica] Substance is reproductive effector in rats (birth defects). Mutagenic to rat cells.

For ethylene glycol:

Ethylene glycol is quickly and extensively absorbed throughout the gastrointestinal tract. Limited information suggests that it is also absorbed through the airways; absorption through skin is apparently slow. Following absorption, it is distributed throughout the body. In humans, it is initially metabolized by alcohol dehydrogenase to form glycoaldehyde, which is rapidly converted to glycolic acid and glyoxal. These breakdown products are oxidized to glyoxylate, which may be further metabolized to formic acid, oxalic acid, and glycine. Breakdown of both glycine and formic acid can generate carbon dioxide, which is one of the major elimination products of ethylene glycol. In addition to exhaled carbon dioxide, ethylene glycol is eliminated in the urine as both the parent compound and glycolic acid. Elimination is rapid and occurs within a few hours.

**Respiratory effects:** Respiratory system involvement occurs 12-24 hours after swallowing sufficient amounts of ethylene glycol. Symptoms include hyperventilation, shallow rapid breathing, and generalized swelling of the lungs with calcium oxalate deposits occasionally appearing in the lungs. Respiratory system involvement appears to be dose-dependent and occurs at the same time as cardiovascular changes. Later, there may be other changes compatible with adult respiratory distress syndrome (ARDS). Swelling of the lung can be a result of heart failure, ARDS, or aspiration of stomach contents. Symptoms related to acidosis such as fast or excessive breathing are frequently observed; however, major symptoms such as swelling of the lung and inflammation of the bronchi and lungs are relatively rare, and are usually seen only in extreme poisoning.

**Cardiovascular effects:** Cardiovascular system involvement in humans occurs at the same time as respiratory system involvement, during the second phase of ethylene glycol poisoning by swallowing, which is 12-24 hours after acute exposure. The symptoms of poisoning involving the heart include increased heart rate, heart enlargement and ventricular gallop. There may also be high or low blood pressure, which may progress to cardiogenic shock. In lethal cases, inflammation of the heart muscle has been observed at autopsy. Cardiovascular involvement appears to be rare and usually seen after swallowing higher doses of ethylene glycol. In summary, acute exposure to high levels of ethylene glycol can cause serious cardiovascular effects in humans. The effects of a long-term, low-dose exposure are unknown.

**Gastrointestinal effects:** Common early acute effects of swallowing ethylene glycol include nausea, vomiting with or without blood, heartburn and abdominal cramping and pain. One patient showed intermittent diarrhea and pain, and after surgery, deposition of oxalate crystals was shown to have occurred.

**Musculoskeletal effects:** Reported musculoskeletal effects in cases of acute ethylene glycol poisoning include diffuse muscle tenderness and pain, associated with high levels of creatinine in the blood, and jerks and contractions associated with low calcium.

**Liver effects:** Autopsies carried out on people who died following acute ethylene glycol poisoning showed deposition of calcium oxalate in the liver as well as hydropic and fatty degeneration and cell death (necrosis) of the liver.

**Kidney effects:** Adverse kidney effects are seen during the third stage of ethylene glycol poisoning, 2-3 days after acute exposure. Calcium oxalate crystals are deposited in the tubules and are seen in the urine. There may also be degeneration and death of tubule cells, and inflammation of the tubule interstitium. If untreated, the degree of kidney damage progresses and leads to blood and protein in the urine, decreased kidney function, reduction in urine output and ultimately, kidney failure. With adequate supportive therapy, kidney function can return to normal or near normal.

**Metabolic effects:** Metabolic changes can occur within 12 hours of exposure to ethylene glycol. There may be metabolic acidosis, caused by accumulation of glycolic acid in the blood and therefore a reduction in blood pH. The anion gap is increased, due to increased unmeasured anions (mainly glycolate).

**Effects on the nervous system:** Adverse reactions involving the nervous system are among the first symptoms to appear in humans after ethylene glycol is swallowed. These early effects are also the only symptoms caused by unmetabolised ethylene glycol. Together with metabolic effects (see above), they occur from 0.5-12 hours after exposure and are considered to be part of the first stage in ethylene glycol poisoning. Inco-ordination, slurred speech, confusion and sleepiness are common in the early stages, as are irritation, restlessness and disorientation. Later, there may be effects on cranial nerves (which may be reversible over many months). Swelling of the brain (cerebrum) and crystal deposits of calcium oxalate in the walls of the small blood vessels of the brain were found at autopsy in people who died after acute ethylene glycol poisoning.

**Reproductive effects:** Animal testing showed that ethylene glycol may affect fertility, survival of fetuses and the male reproductive organs. Effects on development: Animal studies indicate that birth defects may occur after exposure in pregnancy; there may also be reduction in foetal weight.

**Cancer:** No studies are known regarding cancer effects in humans or animal, after skin exposure to ethylene glycol.

**Genetic toxicity:** No human studies available, but animal testing results are consistently negative.

Acute Toxicity

✗

Carcinogenicity

✓

Skin Irritation/Corrosion

✗

Reproductivity

✗

Continued...

|                                   |   |                          |   |
|-----------------------------------|---|--------------------------|---|
| Serious Eye Damage/Irritation     | ✓ | STOT - Single Exposure   | ✗ |
| Respiratory or Skin sensitisation | ✗ | STOT - Repeated Exposure | ✓ |
| Mutagenicity                      | ✗ | Aspiration Hazard        | ✗ |

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

SECTION 12 Ecological information

|                                                                                                                                                                                                                                                                                                                                  |               |                    |                               |                 |               |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------|-------------------------------|-----------------|---------------|
| Toxicity                                                                                                                                                                                                                                                                                                                         |               |                    |                               |                 |               |
| Titan Propyzamide 500 SC<br>(Titan Propyzamide 500 SC Herbicide)                                                                                                                                                                                                                                                                 | Endpoint      | Test Duration (hr) | Species                       | Value           | Source        |
|                                                                                                                                                                                                                                                                                                                                  | Not Available | Not Available      | Not Available                 | Not Available   | Not Available |
| propyzamide                                                                                                                                                                                                                                                                                                                      | Endpoint      | Test Duration (hr) | Species                       | Value           | Source        |
|                                                                                                                                                                                                                                                                                                                                  | EC50          | 72h                | Algae or other aquatic plants | 0.189-0.709mg/L | 4             |
|                                                                                                                                                                                                                                                                                                                                  | EC50          | 48h                | Crustacea                     | >5.6mg/L        | 4             |
|                                                                                                                                                                                                                                                                                                                                  | NOEC(ECx)     | 72h                | Algae or other aquatic plants | 0.05mg/L        | 4             |
|                                                                                                                                                                                                                                                                                                                                  | LC50          | 96h                | Fish                          | >7.69mg/L       | 4             |
| ethylene glycol                                                                                                                                                                                                                                                                                                                  | Endpoint      | Test Duration (hr) | Species                       | Value           | Source        |
|                                                                                                                                                                                                                                                                                                                                  | EC50(ECx)     | Not Available      | Algae or other aquatic plants | 6500-7500mg/l   | 1             |
|                                                                                                                                                                                                                                                                                                                                  | EC50          | 48h                | Crustacea                     | >100mg/l        | 2             |
|                                                                                                                                                                                                                                                                                                                                  | EC50          | 96h                | Algae or other aquatic plants | 6500-13000mg/l  | 1             |
|                                                                                                                                                                                                                                                                                                                                  | LC50          | 96h                | Fish                          | 8050mg/L        | 4             |
| Legend: Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. US EPA, Ecotox database - Aquatic Toxicity Data 4. ECETOC Aquatic Hazard Assessment Data 5. NITE (Japan) - Bioconcentration Data 6. METI (Japan) - Bioconcentration Data 7. Vendor Data |               |                    |                               |                 |               |

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

Persistence and degradability

|                 |                           |                             |
|-----------------|---------------------------|-----------------------------|
| Ingredient      | Persistence: Water/Soil   | Persistence: Air            |
| propyzamide     | HIGH                      | HIGH                        |
| ethylene glycol | LOW (Half-life = 24 days) | LOW (Half-life = 3.46 days) |

Bioaccumulative potential

|                 |                       |
|-----------------|-----------------------|
| Ingredient      | Bioaccumulation       |
| propyzamide     | LOW (LogKOW = 3.5747) |
| ethylene glycol | LOW (BCF = 200)       |

Mobility in soil

|                 |                      |
|-----------------|----------------------|
| Ingredient      | Mobility             |
| propyzamide     | LOW (Log KOC = 1587) |
| ethylene glycol | HIGH (Log KOC = 1)   |

SECTION 13 Disposal considerations

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waste treatment methods      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Product / Packaging disposal | <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> Otherwise: <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><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> |

## Titan Propyzamide 500 SC (Titan Propyzamide 500 SC Herbicide)

## SECTION 14 Transport information

## Labels Required

|                  |                                                                                   |
|------------------|-----------------------------------------------------------------------------------|
|                  |  |
| Marine Pollutant |  |
| HAZCHEM          | •3Z                                                                               |

## Land transport (ADG)

|                                    |                                                                                                                                     |                    |                      |                   |                |
|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------------------|-------------------|----------------|
| 14.1. UN number or ID number       | 3082                                                                                                                                |                    |                      |                   |                |
| 14.2. UN proper shipping name      | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains propyzamide)                                                          |                    |                      |                   |                |
| 14.3. Transport hazard class(es)   | <table> <tr> <td>Class</td><td>9</td></tr> <tr> <td>Subsidiary Hazard</td><td>Not Applicable</td></tr> </table>                     | Class              | 9                    | Subsidiary Hazard | Not Applicable |
| Class                              | 9                                                                                                                                   |                    |                      |                   |                |
| Subsidiary Hazard                  | Not Applicable                                                                                                                      |                    |                      |                   |                |
| 14.4. Packing group                | III                                                                                                                                 |                    |                      |                   |                |
| 14.5. Environmental hazard         | Environmentally hazardous                                                                                                           |                    |                      |                   |                |
| 14.6. Special precautions for user | <table> <tr> <td>Special provisions</td><td>274 331 335 375 AU01</td></tr> <tr> <td>Limited quantity</td><td>5 L</td></tr> </table> | Special provisions | 274 331 335 375 AU01 | Limited quantity  | 5 L            |
| Special provisions                 | 274 331 335 375 AU01                                                                                                                |                    |                      |                   |                |
| Limited quantity                   | 5 L                                                                                                                                 |                    |                      |                   |                |

Environmentally Hazardous Substances meeting the descriptions of UN 3077 or UN 3082 are not subject to this Code when transported by road or rail in;

(a) packagings;

(b) IBCs; or

(c) any other receptacle not exceeding 500 kg(L).

- Australian Special Provisions (SP AU01) - ADG Code 7th Ed.

## Air transport (ICAO-IATA / DGR)

|                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                    |                    |                                 |                |                               |       |                                          |     |                                        |       |                                                           |      |                                                |         |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------------|---------------------------------|----------------|-------------------------------|-------|------------------------------------------|-----|----------------------------------------|-------|-----------------------------------------------------------|------|------------------------------------------------|---------|
| 14.1. UN number                                           | 3082                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                    |                                 |                |                               |       |                                          |     |                                        |       |                                                           |      |                                                |         |
| 14.2. UN proper shipping name                             | Environmentally hazardous substance, liquid, n.o.s. (contains propyzamide)                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                    |                    |                                 |                |                               |       |                                          |     |                                        |       |                                                           |      |                                                |         |
| 14.3. Transport hazard class(es)                          | <table> <tr> <td>ICAO/IATA Class</td><td>9</td></tr> <tr> <td>ICAO / IATA Subsidiary Hazard</td><td>Not Applicable</td></tr> <tr> <td>ERG Code</td><td>9L</td></tr> </table>                                                                                                                                                                                                                                                                                                                                                                | ICAO/IATA Class    | 9                  | ICAO / IATA Subsidiary Hazard   | Not Applicable | ERG Code                      | 9L    |                                          |     |                                        |       |                                                           |      |                                                |         |
| ICAO/IATA Class                                           | 9                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                    |                    |                                 |                |                               |       |                                          |     |                                        |       |                                                           |      |                                                |         |
| ICAO / IATA Subsidiary Hazard                             | Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                    |                    |                                 |                |                               |       |                                          |     |                                        |       |                                                           |      |                                                |         |
| ERG Code                                                  | 9L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                    |                                 |                |                               |       |                                          |     |                                        |       |                                                           |      |                                                |         |
| 14.4. Packing group                                       | III                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                    |                                 |                |                               |       |                                          |     |                                        |       |                                                           |      |                                                |         |
| 14.5. Environmental hazard                                | Environmentally hazardous                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                    |                    |                                 |                |                               |       |                                          |     |                                        |       |                                                           |      |                                                |         |
| 14.6. Special precautions for user                        | <table> <tr> <td>Special provisions</td><td>A97 A158 A197 A215</td></tr> <tr> <td>Cargo Only Packing Instructions</td><td>964</td></tr> <tr> <td>Cargo Only Maximum Qty / Pack</td><td>450 L</td></tr> <tr> <td>Passenger and Cargo Packing Instructions</td><td>964</td></tr> <tr> <td>Passenger and Cargo Maximum Qty / Pack</td><td>450 L</td></tr> <tr> <td>Passenger and Cargo Limited Quantity Packing Instructions</td><td>Y964</td></tr> <tr> <td>Passenger and Cargo Limited Maximum Qty / Pack</td><td>30 kg G</td></tr> </table> | Special provisions | A97 A158 A197 A215 | Cargo Only Packing Instructions | 964            | Cargo Only Maximum Qty / Pack | 450 L | Passenger and Cargo Packing Instructions | 964 | Passenger and Cargo Maximum Qty / Pack | 450 L | Passenger and Cargo Limited Quantity Packing Instructions | Y964 | Passenger and Cargo Limited Maximum Qty / Pack | 30 kg G |
| Special provisions                                        | A97 A158 A197 A215                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                    |                    |                                 |                |                               |       |                                          |     |                                        |       |                                                           |      |                                                |         |
| Cargo Only Packing Instructions                           | 964                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                    |                                 |                |                               |       |                                          |     |                                        |       |                                                           |      |                                                |         |
| Cargo Only Maximum Qty / Pack                             | 450 L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |                    |                                 |                |                               |       |                                          |     |                                        |       |                                                           |      |                                                |         |
| Passenger and Cargo Packing Instructions                  | 964                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                    |                    |                                 |                |                               |       |                                          |     |                                        |       |                                                           |      |                                                |         |
| Passenger and Cargo Maximum Qty / Pack                    | 450 L                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                    |                    |                                 |                |                               |       |                                          |     |                                        |       |                                                           |      |                                                |         |
| Passenger and Cargo Limited Quantity Packing Instructions | Y964                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                    |                    |                                 |                |                               |       |                                          |     |                                        |       |                                                           |      |                                                |         |
| Passenger and Cargo Limited Maximum Qty / Pack            | 30 kg G                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                    |                    |                                 |                |                               |       |                                          |     |                                        |       |                                                           |      |                                                |         |

## Sea transport (IMDG-Code / GGVSee)

|                                    |                                                                                                                                                                                 |            |          |                        |                 |                    |     |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------|------------------------|-----------------|--------------------|-----|
| 14.1. UN number                    | 3082                                                                                                                                                                            |            |          |                        |                 |                    |     |
| 14.2. UN proper shipping name      | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (contains propyzamide)                                                                                                      |            |          |                        |                 |                    |     |
| 14.3. Transport hazard class(es)   | <table> <tr> <td>IMDG Class</td><td>9</td></tr> <tr> <td>IMDG Subsidiary Hazard</td><td>Not Applicable</td></tr> </table>                                                       | IMDG Class | 9        | IMDG Subsidiary Hazard | Not Applicable  |                    |     |
| IMDG Class                         | 9                                                                                                                                                                               |            |          |                        |                 |                    |     |
| IMDG Subsidiary Hazard             | Not Applicable                                                                                                                                                                  |            |          |                        |                 |                    |     |
| 14.4. Packing group                | III                                                                                                                                                                             |            |          |                        |                 |                    |     |
| 14.5. Environmental hazard         | Marine Pollutant                                                                                                                                                                |            |          |                        |                 |                    |     |
| 14.6. Special precautions for user | <table> <tr> <td>EMS Number</td><td>F-A, S-F</td></tr> <tr> <td>Special provisions</td><td>274 335 375 969</td></tr> <tr> <td>Limited Quantities</td><td>5 L</td></tr> </table> | EMS Number | F-A, S-F | Special provisions     | 274 335 375 969 | Limited Quantities | 5 L |
| EMS Number                         | F-A, S-F                                                                                                                                                                        |            |          |                        |                 |                    |     |
| Special provisions                 | 274 335 375 969                                                                                                                                                                 |            |          |                        |                 |                    |     |
| Limited Quantities                 | 5 L                                                                                                                                                                             |            |          |                        |                 |                    |     |

## 14.7. Maritime transport in bulk according to IMO instruments

14.7.1. Transport in bulk according to Annex II of MARPOL and the IBC code  
Not Applicable

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

| Product name    | Group          |
|-----------------|----------------|
| propyzamide     | Not Applicable |
| ethylene glycol | Not Applicable |

14.7.3. Transport in bulk in accordance with the IGC Code

| Product name    | Ship Type      |
|-----------------|----------------|
| propyzamide     | Not Applicable |
| ethylene glycol | Not Applicable |

SECTION 15 Regulatory information

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

- propyzamide 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 5
  - Chemical Footprint Project - Chemicals of High Concern List
- ethylene glycol is found on the following regulatory lists
- Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
  - Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 10 / Appendix C
  - Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5
  - Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6
  - Australian Inventory of Industrial Chemicals (AIIC)
  - Chemical Footprint Project - Chemicals of High Concern List

Additional Regulatory Information  
Not Applicable

National Inventory Status

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

SECTION 16 Other information

|               |            |
|---------------|------------|
| Revision Date | 04/06/2026 |
| Initial Date  | 14/05/2026 |

SDS Version Summary

| Version | Date of Update | Sections Updated                                                                                                                                                                    |
|---------|----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 2.1     | 22/05/2026     | Hazards identification - Classification                                                                                                                                             |
| 3.1     | 04/06/2026     | Identification of the substance / mixture and of the company / undertaking - Supplier Information, Identification of the substance / mixture and of the company / undertaking - Use |

Other information

**Titan Propyzamide 500 SC (Titan Propyzamide 500 SC Herbicide)**

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

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

**Definitions and abbreviations**

- PC - TWA: Permissible Concentration-Time Weighted Average
- PC - STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
- TEEL: Temporary Emergency Exposure Limit
- IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value
- BCF: BioConcentration Factors
- BEI: Biological Exposure Index
- DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration
- MARPOL: International Convention for the Prevention of Pollution from Ships
- IMSBC: International Maritime Solid Bulk Cargoes Code
- IGC: International Gas Carrier Code
- IBC: International Bulk Chemical Code
  
- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSSL: 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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