

# Titan Duelling Spray Adjuvant (Titan Duelling SA Spray Adjuvant)

## Titan Ag

Chemwatch: 37-95928

Version No: 2.1

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

Chemwatch Hazard Alert Code: 1

Initial Date: 20/03/2023

Revision Date: 08/05/2026

Print Date: 03/06/2026

L.GHS.AUS.EN.E

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

### Product Identifier

|                               |                                                                  |
|-------------------------------|------------------------------------------------------------------|
| Product name                  | Titan Duelling Spray Adjuvant (Titan Duelling SA Spray Adjuvant) |
| Chemical Name                 | Not Applicable                                                   |
| Synonyms                      | Not Available                                                    |
| 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 | Spray adjuvant. |
|--------------------------|-----------------|

### 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              | Not Applicable                                                                                                                      |
| Classification <sup>[1]</sup> | Non hazardous                                                                                                                       |
| 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) | Not Applicable |
| Signal word         | Not Applicable |

### Hazard statement(s)

Not Applicable

### Precautionary statement(s) Prevention

Not Applicable

### Precautionary statement(s) Response

Not Applicable

### Precautionary statement(s) Storage

Not Applicable

### Precautionary statement(s) Disposal

Not Applicable

No further product hazard information.

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

| CAS No        | %[weight]                                                                                                                                                                                    | Name          |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Not Available | 100                                                                                                                                                                                          | Not Specified |
| 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  | If this product comes in contact with eyes: <ul style="list-style-type: none"><li>Wash out immediately with water.</li><li>If irritation continues, seek medical attention.</li><li>Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li></ul> |
| Skin Contact | If skin or hair contact occurs: <ul style="list-style-type: none"><li>Flush skin and hair with running water (and soap if available).</li><li>Seek medical attention in event of irritation.</li></ul>                                                                                      |
| Inhalation   | <ul style="list-style-type: none"><li>If fumes, aerosols or combustion products are inhaled remove from contaminated area.</li><li>Other measures are usually unnecessary.</li></ul>                                                                                                        |
| Ingestion    | <ul style="list-style-type: none"><li>Immediately give a glass of water.</li><li>First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li></ul>                                                                                              |

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Firefighting measures

Extinguishing media

- 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

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

Advice for firefighters

|                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fire Fighting         | <ul style="list-style-type: none"><li>Alert Fire Brigade and tell them location and nature of hazard.</li><li>Wear full body protective clothing with breathing apparatus.</li><li>Prevent, by any means available, spillage from entering drains or water course.</li><li>Use 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> |
| Fire/Explosion Hazard | <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> Combustion products include: <ul style="list-style-type: none"><li>carbon dioxide (CO2)</li><li>other pyrolysis products typical of burning organic material.</li></ul>                                                               |
| HAZCHEM               | Not Applicable                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Minor Spills | <ul style="list-style-type: none"><li>Remove all ignition sources.</li><li>Clean up all spills immediately.</li><li>Avoid breathing vapours and contact with skin and eyes.</li><li>Control personal contact with the substance, by using protective equipment.</li><li>Contain and absorb spill with sand, earth, inert material or vermiculite.</li><li>Wipe up.</li><li>Place in a suitable, labelled container for waste disposal.</li></ul> |
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Titan Duelling Spray Adjuvant (Titan Duelling SA Spray Adjuvant)

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|--------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Major Spills | <p>Moderate hazard.</p> <ul style="list-style-type: none"><li>▶ Clear area of personnel and move upwind.</li><li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li><li>▶ Wear breathing apparatus plus protective gloves.</li><li>▶ Prevent, by any means available, spillage from entering drains or water course.</li><li>▶ 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> |
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Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

|                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Safe handling     | <ul style="list-style-type: none"><li>▶ 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><li>▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.</li></ul> |
| Other information | <ul style="list-style-type: none"><li>▶ Store in original containers.</li><li>▶ Keep containers securely sealed.</li><li>▶ No smoking, naked lights or ignition sources.</li><li>▶ Store in a cool, dry, well-ventilated area.</li><li>▶ Store away from incompatible materials and foodstuff containers.</li><li>▶ Protect containers against physical damage and check regularly for leaks.</li><li>▶ Observe manufacturer's storage and handling recommendations contained within this SDS.</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

Conditions for safe storage, including any incompatibilities

|                         |                                                                                                                                                                                                  |
|-------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable container      | <ul style="list-style-type: none"><li>▶ Metal can or drum</li><li>▶ Packaging as recommended by manufacturer.</li><li>▶ Check all containers are clearly labelled and free from leaks.</li></ul> |
| Storage incompatibility | <p>Avoid contamination of water, foodstuffs, feed or seed.</p> <ul style="list-style-type: none"><li>▶ Avoid reaction with oxidising agents</li></ul>                                            |

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

MATERIAL DATA

Exposure controls

| Appropriate engineering controls                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.</p> |                      |            |                                                                         |                             |                                                                                                                                                                                                                     |                            |                                                                                                                                                                |                           |                                                                                                                                                      |                              |
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| <table><tr><th>Type of Contaminant:</th><th>Air Speed:</th></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> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 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.) |
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Continued...

## Titan Duelling Spray Adjuvant (Titan Duelling SA Spray Adjuvant)

|                                                                       | <p>Within each range the appropriate value depends on:</p> <table> <tr> <th>Lower end of the range</th><th>Upper end of the range</th></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> <p>Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 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 |
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| Lower end of the range                                                | Upper end of the range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                        |                        |                                                       |                                 |                                                           |                                  |                                  |                               |                                           |                                    |
| 1: Room air currents minimal or favourable to capture                 | 1: Disturbing room air currents                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                        |                        |                                                       |                                 |                                                           |                                  |                                  |                               |                                           |                                    |
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| 3: Intermittent, low production.                                      | 3: High production, heavy use                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                        |                        |                                                       |                                 |                                                           |                                  |                                  |                               |                                           |                                    |
| 4: Large hood or large air mass in motion                             | 4: Small hood - local control only                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |                        |                                                       |                                 |                                                           |                                  |                                  |                               |                                           |                                    |
| Individual protection measures, such as personal protective equipment |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |                        |                                                       |                                 |                                                           |                                  |                                  |                               |                                           |                                    |
| Eye and face protection                                               | <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>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |                        |                                                       |                                 |                                                           |                                  |                                  |                               |                                           |                                    |
| Skin protection                                                       | See Hand protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        |                        |                                                       |                                 |                                                           |                                  |                                  |                               |                                           |                                    |
| Hands/feet protection                                                 | <ul style="list-style-type: none"> <li>▶ Wear general protective gloves, eg. light weight rubber gloves.</li> </ul> <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"> <li>· frequency and duration of contact,</li> <li>· chemical resistance of glove material,</li> <li>· glove thickness and</li> <li>· dexterity</li> </ul> <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"> <li>· When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.</li> <li>· When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.</li> <li>· Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.</li> <li>· Contaminated gloves should be replaced.</li> </ul> <p>As defined in ASTM F-739-96 in any application, gloves are rated as:</p> <ul style="list-style-type: none"> <li>· Excellent when breakthrough time &gt; 480 min</li> <li>· Good when breakthrough time &gt; 20 min</li> <li>· Fair when breakthrough time &lt; 20 min</li> <li>· Poor when glove material degrades</li> </ul> <p>For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.</p> <p>It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.</p> <p>Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task.</p> <p>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:</p> <ul style="list-style-type: none"> <li>· Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.</li> <li>· Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential</li> </ul> <p>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p> |                        |                        |                                                       |                                 |                                                           |                                  |                                  |                               |                                           |                                    |
| Body protection                                                       | See Other protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                        |                        |                                                       |                                 |                                                           |                                  |                                  |                               |                                           |                                    |
| Other protection                                                      | <p>No special equipment needed when handling small quantities.</p> <p><b>OTHERWISE:</b></p> <ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ Barrier cream.</li> <li>▶ Eyewash unit.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                        |                        |                                                       |                                 |                                                           |                                  |                                  |                               |                                           |                                    |

## Respiratory protection

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

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

| Required minimum protection factor | Maximum gas/vapour concentration present in air p.p.m. (by volume) | Half-face Respirator | Full-Face Respirator |
|------------------------------------|--------------------------------------------------------------------|----------------------|----------------------|
| up to 10                           | 1000                                                               | A-AUS / Class1       | -                    |
| up to 50                           | 1000                                                               | -                    | A-AUS / Class 1      |

Continued...

## Titan Duelling Spray Adjuvant (Titan Duelling SA Spray Adjuvant)

|           |       |           |           |
|-----------|-------|-----------|-----------|
| up to 50  | 5000  | Airline * | -         |
| up to 100 | 5000  | -         | A-2       |
| up to 100 | 10000 | -         | A-3       |
| 100+      |       |           | Airline** |

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

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

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

## SECTION 9 Physical and chemical properties

## Information on basic physical and chemical properties

|                                                |                                           |                                                     |                |
|------------------------------------------------|-------------------------------------------|-----------------------------------------------------|----------------|
| Appearance                                     | Clear yellow liquid; emulsifies in water. |                                                     |                |
| Physical state                                 | Liquid                                    | Relative density (Water = 1)                        | 0.9            |
| Odour                                          | Not Available                             | Partition coefficient n-octanol / water             | Not Available  |
| Odour threshold                                | Not Available                             | Auto-ignition temperature (°C)                      | Not Available  |
| pH (as supplied)                               | Not Available                             | Decomposition temperature (°C)                      | Not Available  |
| Melting point / freezing point (°C)            | Not Available                             | Viscosity (cSt)                                     | Not Available  |
| Initial boiling point and boiling range (°C)   | >200                                      | Molecular weight (g/mol)                            | Not Applicable |
| Flash point (°C)                               | >150                                      | 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)                          | Not Available                             | 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                 | Product is considered stable and hazardous polymerisation will not occur. |
| 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     | Based on available data, the classification criteria are not met. |
| d) Respiratory or Skin sensitisation | Based on available data, the classification criteria are not met. |
| e) Mutagenicity                      | Based on available data, the classification criteria are not met. |
| f) Carcinogenicity                   | Based on available data, the classification criteria are not met. |
| 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          | Based on available data, the classification criteria are not met. |
| j) Aspiration Hazard                 | Based on available data, the classification criteria are not met. |

Titan Duelling Spray Adjuvant (Titan Duelling SA Spray Adjuvant)

|                                                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |          |            |               |               |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------|---------------|---------------|
| Inhaled                                                          | The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.                                                                                                                                                                                                                                                                                                                                                                                                        |          |            |               |               |
| Ingestion                                                        | The material has <b>NOT</b> been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern. |          |            |               |               |
| Skin Contact                                                     | The liquid may be miscible with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives .                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |            |               |               |
| Eye                                                              | Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |            |               |               |
| Chronic                                                          | Long-term exposure to the product is not thought to produce chronic effects adverse to health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |          |            |               |               |
| Titan Duelling Spray Adjuvant (Titan Duelling SA Spray Adjuvant) | <table><tr><td>TOXICITY</td><td>IRRITATION</td></tr><tr><td>Not Available</td><td>Not Available</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | TOXICITY | IRRITATION | Not Available | Not Available |
| TOXICITY                                                         | IRRITATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |          |            |               |               |
| Not Available                                                    | Not Available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |            |               |               |

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

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

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

SECTION 12 Ecological information

| Toxicity                                                         |                                                                                                                                                                                                                                                                                                                          |                    |               |               |               |
|------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|---------------|---------------|---------------|
| Titan Duelling Spray Adjuvant (Titan Duelling SA Spray Adjuvant) | Endpoint                                                                                                                                                                                                                                                                                                                 | Test Duration (hr) | Species       | Value         | Source        |
|                                                                  | Not Available                                                                                                                                                                                                                                                                                                            | Not Available      | Not Available | Not Available | Not Available |
| 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 |                    |               |               |               |

DO NOT discharge into sewer or waterways.

Persistence and degradability

|            |                                       |                                       |
|------------|---------------------------------------|---------------------------------------|
| Ingredient | Persistence: Water/Soil               | Persistence: Air                      |
|            | No Data available for all ingredients | No Data available for all ingredients |

Bioaccumulative potential

|            |                                       |
|------------|---------------------------------------|
| Ingredient | Bioaccumulation                       |
|            | No Data available for all ingredients |

Mobility in soil

|            |                                       |
|------------|---------------------------------------|
| Ingredient | Mobility                              |
|            | No Data available for all ingredients |

SECTION 13 Disposal considerations

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
|------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Waste treatment methods      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Product / Packaging disposal | <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"><li>▶ Reduction</li><li>▶ Reuse</li><li>▶ Recycling</li><li>▶ Disposal (if all else fails)</li></ul> <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.</p> <ul style="list-style-type: none"><li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li><li>▶ It may be necessary to collect all wash water for treatment before disposal.</li></ul> |

Continued...

- ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- ▶ Where in doubt contact the responsible authority.
- ▶ Recycle wherever possible or consult manufacturer for recycling options.
- ▶ Consult State Land Waste Authority for disposal.
- ▶ Bury or incinerate residue at an approved site.
- ▶ Recycle containers if possible, or dispose of in an authorised landfill.

SECTION 14 Transport information

Labels Required

|                  |                |
|------------------|----------------|
|                  |                |
| Marine Pollutant | NO             |
| HAZCHEM          | Not Applicable |

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

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

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

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

14.7.3. Transport in bulk in accordance with the IGC Code

| Product name | Ship Type |
|--------------|-----------|
|--------------|-----------|

SECTION 15 Regulatory information

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

Additional Regulatory Information

Not Applicable

National Inventory Status

| National Inventory                                | Status                                                                                                                                                                                            |
|---------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Australia - AIIC / Australia Non-Industrial Use   | Not Available                                                                                                                                                                                     |
| Canada - DSL                                      | Not Available                                                                                                                                                                                     |
| Canada - NDSL                                     | Not Available                                                                                                                                                                                     |
| China - IECSC                                     | Not Available                                                                                                                                                                                     |
| Europe - EINEC / ELINCS / NLP                     | Not Available                                                                                                                                                                                     |
| Japan - ENCS                                      | Not Available                                                                                                                                                                                     |
| Korea - KECI                                      | Not Available                                                                                                                                                                                     |
| New Zealand - NZIoC                               | Not Available                                                                                                                                                                                     |
| Philippines - PICCS                               | Not Available                                                                                                                                                                                     |
| USA - TSCA                                        | Not Available                                                                                                                                                                                     |
| Taiwan - TCSI                                     | Not Available                                                                                                                                                                                     |
| Mexico - INSQ                                     | Not Available                                                                                                                                                                                     |
| Vietnam - NCI                                     | Not Available                                                                                                                                                                                     |
| Russia - FBEPH                                    | Not Available                                                                                                                                                                                     |
| UAE - Control List (Banned/Restricted Substances) | Not Available                                                                                                                                                                                     |
| 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 | 08/05/2026 |
| Initial Date  | 20/03/2023 |

SDS Version Summary

| Version | Date of Update | Sections Updated                                       |
|---------|----------------|--------------------------------------------------------|
| 2.1     | 08/05/2026     | Composition / information on ingredients - Ingredients |

Other information

**Titan Duelling Spray Adjuvant (Titan Duelling SA Spray Adjuvant)**

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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