



# SAFETY DATA SHEET

TACTIC™

## Section 1. Identification

Product identifier : TACTIC™  
 SDS # : 478  
 Product type : Liquid.

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

#### Identified uses

Sticker. Surfactant. Deposition aid.

#### Uses advised against

Not available.

Supplier's details : LOVELAND PRODUCTS, INC.  
 P.O. Box 1286  
 Greeley, CO 80632-1286  
 Telephone no. : 1-888-574-2878 (Customer Service)  
 Email : retail-SDS2@nutrien.com  
 Emergency telephone number (with hours of operation) : CHEMTREC (24 hrs): 1-800-424-9300 or +1-703-527-3887

## Section 2. Hazards identification

OSHA/HCS status : While this material is not considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200), this SDS contains valuable information critical to the safe handling and proper use of the product. This SDS should be retained and available for employees and other users of this product.

Classification of the substance or mixture : Not classified.

### GHS label elements

Hazard pictograms : Not applicable.  
 Signal word : No signal word.  
 Hazard statements : No known significant effects or critical hazards.

#### Precautionary statements

General : Read label before use. Keep out of reach of children. If medical advice is needed, have product container or label at hand.  
 Prevention : Not applicable.  
 Response : Not applicable.  
 Storage : Not applicable.  
 Disposal : Not applicable.

Hazards not otherwise classified : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

| Ingredient name              | %       | Identifiers |
|------------------------------|---------|-------------|
| alcohol ethoxylate           | 10 - 20 | Proprietary |
| silicone polyether copolymer | 5 - 10  | Proprietary |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

### Description of necessary first aid measures

- Eye contact** : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
- Inhalation** : Remove person to fresh air and keep comfortable for breathing. If exposed person is not breathing, give artificial respiration or oxygen applied by trained personnel. Get medical attention if symptoms occur.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
- Ingestion** : Wash out mouth with water. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : May cause mild eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : May cause slight transient irritation.
- Ingestion** : No known significant effects or critical hazards. Over-exposure by ingestion is unlikely under normal working conditions.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
redness  
watering
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. Decontamination measures may be necessary. Personnel and equipment must be checked and decontaminated prior to leaving the area.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, alcohol-resistant foam or water spray (fog).

**Unsuitable extinguishing media** : Do not use water jet.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide

**Special protective actions for fire-fighters** : No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. Contain and collect the water used to fight the fire for later treatment and disposal.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

**Remark** : Contain and collect the water used to fight the fire for later treatment and disposal.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

**For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

**For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused adverse impacts (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

**Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Put on appropriate personal protective equipment (see Section 8). Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Use appropriate equipment to put the spilled substance in a container for reuse or disposal. Recycle to process, if possible.  
or  
Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

**Protective measures** : Read label before use. Apply this product only as specified on the label. Do not handle until all safety precautions have been read and understood. Put on appropriate personal protective equipment (see Section 8).

## Section 7. Handling and storage

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

None.

#### Biological exposure indices

No exposure indices known.

**Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Contact your personal protective equipment supplier to verify the compatibility of the equipment for the intended purpose.**

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

#### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

For U.S. work sites where respiratory protection is required, ensure that a respiratory protection program meeting 29 CFR 1910.134 requirements is in place.

## Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

### Appearance

|  |  |
|--|--|
| Physical state   | : Liquid.                              |
| Color  | : Green. [Light]                       |
| Odor   | : Mild.                                |
| Odor threshold   | : Not available.                       |
| pH   | : 7 to 8                               |
| Melting point/freezing point                             | : Not available.                       |
| Boiling point or initial boiling point and boiling range | : Not available.                       |
| Flash point  | : Closed cup: >101.11°C (>214°F) [TCC] |
| Evaporation rate   | : Not available.                       |
| Flammability   | : Not available.                       |
| Lower and upper explosion limit/flammability limit       | : Not available.                       |
| Vapor pressure   | :                                      |

| Ingredient name | Vapor Pressure at 20°C |     |        | Vapor pressure at 50°C |     |        |
|-----------------|------------------------|-----|--------|------------------------|-----|--------|
|                 | mm Hg                  | kPa | Method | mm Hg                  | kPa | Method |
| water           | 17.5                   | 2.3 |        |                        |     |        |

|  |                       |
|--|-----------------------|
| Relative vapor density                 | : Not available.      |
| Relative density                       | : 1.02 to 1.03        |
| Bulk density                           | : 8.51 to 8.59 lb/gal |
| Solubility in water                    | : Dispersible.        |
| Partition coefficient: n-octanol/water | : Not applicable.     |
| Auto-ignition temperature              | :                     |

| Ingredient name  | °C  | °F    | Method |
|------------------|-----|-------|--------|
| propane-1,2-diol | 371 | 699.8 |        |

|                           |                  |
|---------------------------|------------------|
| Decomposition temperature | : Not available. |
| Viscosity                 | : Not available. |

### Particle characteristics

|                      |                   |
|----------------------|-------------------|
| Median particle size | : Not applicable. |
|----------------------|-------------------|

## Section 10. Stability and reactivity

|            |  |
|------------|--|
| Reactivity | : No specific test data related to reactivity available for this product or its ingredients. |
|------------|--|

|                    |                          |
|--------------------|--------------------------|
| Chemical stability | : The product is stable. |
|--------------------|--------------------------|

|                                    |   |
|------------------------------------|---|
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur. |
|------------------------------------|---|

|                     |   |
|---------------------|---|
| Conditions to avoid | : Extremes of temperature and direct sunlight. Low pH (strong acidic conditions) will cause coagulation. Keep away from incompatible materials. |
|---------------------|---|

|                        |   |
|------------------------|---|
| Incompatible materials | : Strong oxidizers, strong acids and bases. Avoid multivalent transition metal ions as they will cause coagulation. |
|------------------------|---|

## Section 10. Stability and reactivity

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

##### **Product/ingredient name**

TACTIC™

alcohol ethoxylate

##### **Result**

**Rabbit - Dermal - LD50**

&gt;2000 mg/kg

**Rat - Oral - LD50**

&gt;5000 mg/kg

**Rat - Inhalation - LC50 Dusts and mists**

&gt;2.33 mg/l [4 hours]

**Rat - Oral - LD50**

5650 mg/kg

**Conclusion/Summary [Product]** : Low acute toxicity.

#### Skin corrosion/irritation

##### **Product/ingredient name**

TACTIC™

alcohol ethoxylate

##### **Result**

**Rabbit - Skin - Not irritant**Duration of treatment/exposure: 4 hoursAmount/concentration applied: 0.5 ml**Rabbit - Skin - Mild irritant**Amount/concentration applied: 500 mg

**Conclusion/Summary [Product]** : May cause slight transient irritation.

#### Serious eye damage/eye irritation

##### **Product/ingredient name**

TACTIC™

alcohol ethoxylate

##### **Result**

**Rabbit - Eyes - Not irritant**Amount/concentration applied: 0.1 ml**Rabbit - Eyes - Severe irritant**Amount/concentration applied: 5 mg**Rabbit - Eyes - Severe irritant**Amount/concentration applied: 100 mg

**Conclusion/Summary [Product]** : May cause mild eye irritation.

#### Respiratory corrosion/irritation

Not available.

**Conclusion/Summary [Product]** : No known significant effects or critical hazards.

#### Respiratory or skin sensitization

##### **Product/ingredient name**

TACTIC™

##### **Result**

**Guinea pig - skin**Result: Not sensitizing

#### **Skin**

**Conclusion/Summary [Product]** : No known significant effects or critical hazards.

## Section 11. Toxicological information

### Respiratory

**Conclusion/Summary [Product]** : No known significant effects or critical hazards.

### Germ cell mutagenicity

#### Product/ingredient name

TACTIC™

#### Result

##### In vitro - Bacteria

OECD 471 [Bacterial Reverse Mutation Test]

Result: Negative

**Conclusion/Summary [Product]** : No known significant effects or critical hazards.

### Carcinogenicity

Not available.

**Conclusion/Summary [Product]** : No known significant effects or critical hazards.

### Reproductive toxicity

Not available.

**Conclusion/Summary [Product]** : No known significant effects or critical hazards.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on the likely routes of exposure

Dermal contact. Eye contact. Inhalation. Ingestion.

### Potential acute health effects

- Eye contact** : May cause mild eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : May cause slight transient irritation.
- Ingestion** : No known significant effects or critical hazards. Over-exposure by ingestion is unlikely under normal working conditions.

### Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:  
redness  
watering
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
irritation  
redness
- Ingestion** : No specific data.

## Section 11. Toxicological information

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Short term exposure

**Potential immediate effects** : See above.

**Potential delayed effects** : See below.

#### Long term exposure

**Potential immediate effects** : See above.

**Potential delayed effects** : See below.

### Potential chronic health effects

Not available.

**Conclusion/Summary [Product]** : No known significant effects or critical hazards.

**General** : No known significant effects or critical hazards.

**Carcinogenicity** : No known significant effects or critical hazards.

**Mutagenicity** : No known significant effects or critical hazards.

**Reproductive toxicity** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

| Product/ingredient name      | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|------------------------------|--------------|----------------|--------------------------|----------------------------|-------------------------------------|
| TACTIC™                      | N/A          | N/A            | N/A                      | 159.4                      | N/A                                 |
| alcohol ethoxylate           | 5650         | N/A            | N/A                      | N/A                        | N/A                                 |
| silicone polyether copolymer | N/A          | N/A            | N/A                      | 11                         | N/A                                 |

### Other information

Not available.

## Section 12. Ecological information

### Toxicity

#### Product/ingredient name

TACTIC™

#### Result

##### NOEC

Daphnia  
1.31 mg/l [14 days]

##### NOEC

Fish - *Poecilia reticulata*  
24.2 mg/l [14 days]

##### LC50

Fish - *Poecilia reticulata*  
160 mg/l [96 hours]

##### NOEC

Fish - *Poecilia reticulata*  
62.2 mg/l [96 hours]

alcohol ethoxylate

##### LC50

Fish - *Pimephales promelas*  
39 mg/l [96 hours]

##### LC50



## Section 12. Ecological information

Daphnia - *Daphnia magna*  
81.2 mg/l [48 hours]

**Conclusion/Summary [Product]** : Based on available data, the classification criteria are not met. Apply this product only as specified on the label.

### Persistence and degradability

Not available.

| Product/ingredient name      | Aquatic half-life | Photolysis | Biodegradability |
|------------------------------|-------------------|------------|------------------|
| alcohol ethoxylate           | -                 | -          | Not readily      |
| silicone polyether copolymer | -                 | -          | Not readily      |

### Bioaccumulative potential

Not available.

### Mobility in soil

**Soil/Water partition coefficient** : Not available.



### Other adverse effects

No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : Follow disposal instructions on label. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Triple- or pressure-rinse the empty container. Add the rinsings to the spray mixture in the tank. Do not reuse containers for any purpose. Disposal should be in accordance with applicable regional, national and local laws and regulations. Recycling decontaminated containers is the best option of container disposal. The Agricultural Container Recycling Council (ACRC) operates the national recycling program. To contact your state and local ACRC recycler visit the ACRC web page at <http://www.acrecycle.org/>. Do not contaminate water, food or feed by storage or disposal.

## Section 14. Transport information

|                                   | DOT Classification   | TDG Classification | IMDG           | IATA           |
|-----------------------------------|--|--------------------|----------------|----------------|
| <b>UN number</b>                  | UN3082<br>(See remarks below)  | Not regulated.     | Not regulated. | Not regulated. |
| <b>UN proper shipping name</b>    | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (alcohol ethoxylate)   | -                  | -              | -              |
| <b>Transport hazard class(es)</b> | 9<br>  | -                  | -              | -              |
| <b>Packing group</b>              | III  | -                  | -              | -              |
| <b>Environmental hazards</b>      | Yes.   | No.                | No.            | No.            |

### Additional information

## Section 14. Transport information

- DOT Classification** : Except when all or part of the transportation is by vessel:  
a) non-bulk packagings of this product (less than or equal to 119 gal) that are transported by motor vehicle, rail car or aircraft are exempt from DOT hazardous material regulations.  
b) a bulk packaging, freight container or transport vehicle for this product that bears a Class 9 label or placard are not required to also display the marine pollutant mark.
- IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.
- Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

## Section 15. Regulatory information

### International regulations

#### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

#### Montreal Protocol

Not listed.

#### Stockholm Convention on Persistent Organic Pollutants

Not listed.

#### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

### Inventory list

- Australia** : All components are listed or exempted.
- Canada** : At least one component is not listed in DSL but all such components are listed in NDSL.
- China** : All components are listed or exempted.
- Eurasian Economic Union** : **Russian Federation inventory:** Not determined.
- Japan** : **Japan inventory (CSCL):** Not determined.  
**Japan inventory (ISHL):** Not determined.
- New Zealand** : Not determined.
- Philippines** : Not determined.
- Republic of Korea** : All components are listed or exempted.
- Taiwan** : Not determined.
- Thailand** : Not determined.
- Turkey** : Not determined.
- United States** : All components are active or exempted.
- Viet Nam** : Not determined.

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption:** Not determined

#### TSCA 12(b) - Chemical export notification

Not applicable.

**Clean Air Act Section 112** : Listed

**(b) Hazardous Air Pollutants (HAPs)**

**Clean Air Act Section 602 Class I Substances** : Not listed

## Section 15. Regulatory information

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed

**DEA List II Chemicals (Essential Chemicals)** : Not listed

### SARA 311/312

**Classification** : Not applicable.

### State regulations


**Massachusetts** : None of the components are listed.

**New York** : None of the components are listed.

**New Jersey** : The following components are listed: propane-1,2-diol

**Pennsylvania** : The following components are listed: propane-1,2-diol

### California Prop. 65

 **WARNING:** This product can expose you to formaldehyde, which is known to the State of California to cause cancer. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

## Section 16. Other information

### History

**Date of issue/Date of revision** : 11/20/2024

**Date of previous issue** : 7/26/2023

**Version** : 2

### Key to abbreviations

ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
N/A = Not available  
SGG = Segregation Group  
UN = United Nations

### Procedure used to derive the classification

Not classified.

 Indicates information that has changed from previously issued version.

### Notice to reader

Supply chain partners must ensure they pass this SDS, and all other relevant safety information to their customers.

### DISCLAIMER AND LIMITATION OF LIABILITY

The information and recommendations contained in this Safety Data Sheet ("SDS") relate only to the specific material referred to herein (the "Material") and do not relate to the use of such Material in combination with any other material or process. The information and recommendations contained herein are believed to be current and correct as of the date of this SDS. HOWEVER, THE INFORMATION AND RECOMMENDATIONS ARE PRESENTED WITHOUT WARRANTY, REPRESENTATION OR LICENSE OF ANY KIND, EXPRESS OR IMPLIED, WITH RESPECT TO THEIR ACCURACY, CORRECTNESS OR COMPLETENESS, AND THE SELLER, SUPPLIER AND MANUFACTURER OF THE MATERIAL AND THEIR RESPECTIVE AFFILIATES (COLLECTIVELY, THE "SUPPLIER") DISCLAIM ALL LIABILITY FOR RELIANCE ON SUCH INFORMATION AND RECOMMENDATIONS. This SDS is not a guarantee of safety. A buyer or user of the Material (a "Recipient") is responsible for ensuring that it has all current information necessary to safely use the Material for its specific purpose.

## Section 16. Other information

FURTHERMORE, THE RECIPIENT ASSUMES ALL RISK IN CONNECTION WITH THE USE OF THE MATERIAL. THE RECIPIENT ASSUMES ALL RESPONSIBILITY FOR ENSURING THE MATERIAL IS USED IN A SAFE MANNER IN COMPLIANCE WITH APPLICABLE ENVIRONMENTAL, HEALTH, SAFETY AND SECURITY LAWS, POLICIES AND GUIDELINES. THE SUPPLIER DOES NOT WARRANT THE MERCHANTABILITY OF THE MATERIAL OR THE FITNESS OF THE MATERIAL FOR ANY PARTICULAR USE AND ASSUMES NO RESPONSIBILITY FOR INJURY OR DAMAGE CAUSED DIRECTLY OR INDIRECTLY BY OR RELATED TO THE USE OF THE MATERIAL.

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