SAFETY DATA SHEET

1. Identification

Product identifier: BIO-TERGE 804 M

Other means of identification
- Product code: 0548
- Recommended use: Surfactant
- Recommended restrictions: For industrial use only.

Manufacturer/Importer/Supplier/Distributor information

Manufacturer
- Company name: Stepan Company
- Address: 22 West Frontage Road, Northfield, IL 60093, USA
- Telephone: General 1-847-446-7500
- Emergency phone number: Medical 1-800-228-5635, Chemtrec 1-800-424-9300, Chemtrec Intl +1 703-527-3887

2. Hazard(s) identification

Physical hazards
- Flammable liquids: Category 3

Health hazards
- Skin corrosion/irritation: Category 2
- Serious eye damage/eye irritation: Category 1

Environmental hazards
- Hazardous to the aquatic environment, acute hazard: Category 2
- Hazardous to the aquatic environment, long-term hazard: Category 3

OSHA defined hazards
- Not classified.

Label elements

Signal word: Danger

Hazard statement: Flammable liquid and vapor. Causes skin irritation. Causes serious eye damage. Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Precautionary statement

Prevention
- Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Keep container tightly closed. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wash thoroughly after handling. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.

Response
- If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a poison center/doctor. Specific treatment (see this label). If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. In case of fire: Use appropriate media to extinguish.

Storage
- Store in a well-ventilated place. Keep cool. Store locked up.

Disposal
- Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified (HNOC)
- None known.
3. Composition/information on ingredients

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Water</td>
<td></td>
<td>7732-18-5</td>
<td>48 - 51</td>
</tr>
<tr>
<td>Anionic/nonionic detergent blend*</td>
<td>Proprietary*</td>
<td></td>
<td>47 - 50</td>
</tr>
<tr>
<td>Ethanol</td>
<td></td>
<td>64-17-5</td>
<td>4 - 6</td>
</tr>
</tbody>
</table>

*Designates that a specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. First-aid measures

**Inhalation**
Move to fresh air. Call a physician if symptoms develop or persist.

**Skin contact**
Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.

**Eye contact**
Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention immediately.

**Ingestion**
Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

**Most important symptoms/effects, acute and delayed**
Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. Skin irritation. May cause redness and pain.

**Indication of immediate medical attention and special treatment needed**
Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

**General information**
Take off all contaminated clothing immediately. IF exposed or concerned: Get medical advice/attention. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

**Suitable extinguishing media**
Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).

**Unsuitable extinguishing media**
Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical**
Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters**
Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions**
In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

**Specific methods**
Use standard firefighting procedures and consider the hazards of other involved materials.

**General fire hazards**
Flammable liquid and vapor.

6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures**
Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained.

**Methods and materials for containment and cleaning up**
Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material.

Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent product from entering drains. Following product recovery, flush area with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use.
Environmental precautions
Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Vapors may form explosive mixtures with air. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not get this material in contact with eyes. Avoid contact with skin. Avoid prolonged exposure. Avoid contact with clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. When using, do not eat, drink or smoke. Wash hands thoroughly after handling. Avoid release to the environment. Do not empty into drains.

Conditions for safe storage, including any incompatibilities

8. Exposure controls/personal protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol (CAS 64-17-5)</td>
<td>PEL</td>
<td>1900 mg/m^3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1000 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>US. ACGIH Threshold Limit Values Components</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol (CAS 64-17-5)</td>
<td>STEL</td>
<td>1000 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>US. NIOSH: Pocket Guide to Chemical Hazards Components</th>
<th>Type</th>
<th>Value</th>
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</thead>
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<tr>
<td>Ethanol (CAS 64-17-5)</td>
<td>TWA</td>
<td>1900 mg/m^3</td>
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<td>1000 ppm</td>
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</table>

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls
Explosion-proof general and local exhaust ventilation. Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. Eye wash facilities and emergency shower must be available when handling this product.

Individual protection measures, such as personal protective equipment

Eye/face protection
Wear safety glasses with side shields (or goggles) and a face shield.

Skin protection
Hand protection
Wear appropriate chemical resistant gloves.

Other
Wear appropriate chemical resistant clothing.

Respiratory protection
In case of insufficient ventilation, wear suitable respiratory equipment. If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards
Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations
When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance
Physical state
Liquid.

Form
Liquid.

Color
Not available.

Odor
Not available.
Odor threshold: Not available.

pH: 6 - 7.5 (as is)

Melting point/freezing point: Not available.

Initial boiling point and boiling range: 194 °F (90 °C)

Flash point: > 124.0 °F (> 51.1 °C) Pensky-Martens Closed Cup

Evaporation rate: Estimated slower than ethyl ether

Flammability (solid, gas): Not available.

Upper/lower flammability or explosive limits

- Flammability limit - lower (%): Not available.
- Flammability limit - upper (%): Not available.
- Explosive limit - lower (%): Not available.
- Explosive limit - upper (%): Not available.

Vapor pressure: Not determined or unknown

Vapor density: Estimated heavier than air

Relative density: Not available.

Solubility(ies)

- Solubility (water): Not available.
- Auto-ignition temperature: Not available.
- Decomposition temperature: Not available.
- Viscosity: 797 cP @ 25C

Other information

- Density: 8.80 lb/gal

10. Stability and reactivity

Reactivity: The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability: Material is stable under normal conditions.

Possibility of hazardous reactions: No dangerous reaction known under conditions of normal use.

Conditions to avoid: Contact with incompatible materials.

Incompatible materials: Strong oxidizing agents.

Hazardous decomposition products: No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure

- Inhalation: No adverse effects due to inhalation are expected.
- Skin contact: Causes skin irritation. May be harmful in contact with skin.
- Eye contact: Causes serious eye irritation.
- Ingestion: Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics: Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain.

Information on toxicological effects

Acute toxicity: Harmful if swallowed. May be harmful in contact with skin.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
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</thead>
<tbody>
<tr>
<td>BIO-TERGE 804 M</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute Dermal LD50</td>
<td>Rabbit</td>
<td>&gt; 2000 mg/kg</td>
</tr>
</tbody>
</table>
### Test Results

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<thead>
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<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oral</td>
<td>Rat</td>
<td>LD50 4630 mg/kg</td>
</tr>
</tbody>
</table>

### Skin corrosion/irritation
- Causes skin irritation.

### Serious eye damage/eye irritation
- Causes serious eye irritation.

### Respiratory or skin sensitization
- **Respiratory sensitization**: Not available.
- **Skin sensitization**: This product is not expected to cause skin sensitization.
- **Germ cell mutagenicity**: No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

### Carcinogenicity
- **IARC Monographs. Overall Evaluation of Carcinogenicity**: Not listed.
- **US. National Toxicology Program (NTP) Report on Carcinogens**: Not listed.

### Reproductive toxicity
- This product is not expected to cause reproductive or developmental effects.

### Specific target organ toxicity
- **Single exposure**: Not applicable.
- **Repeated exposure**: Not applicable.

### Aspiration hazard
- Not applicable.

### Ecological information

#### Ecotoxicity
- Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

#### Persistence and degradability
- Readily biodegradable.

#### Bioaccumulative potential
- No data available.

#### Mobility in soil
- No data available.

#### Other adverse effects
- No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

### Disposal considerations

#### Disposal instructions
- Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Hazardous waste code
- The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

#### Waste from residues / unused products
- Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

#### Contaminated packaging
- Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

### Transport information

#### DOT
- **UN number**: UN1170
- **UN proper shipping name**: Ethanol Solution
- **Transport hazard class(es)**
  - **Class**: 3
  - **Subsidiary risk**: -
  - **Packing group**: III
- **Special precautions for user**: Not available.

#### IATA
- **UN number**: UN1170
- **UN proper shipping name**: Ethanol Solution
Transport hazard class(es)
- Class 3
- Subsidiary risk -
- Packing group III
- Environmental hazards No.
- Special precautions for user Not available.

IMDG
- UN number UN1170
- UN proper shipping name Ethanol Solution
- Transport hazard class(es)
  - Class 3
  - Subsidiary risk -
  - Packing group III
  - Environmental hazards No.
  - Marine pollutant No.
  - EmS Not available.
  - Special precautions for user Not available.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

DOT

IATA; IMDG

15. Regulatory information

US federal regulations
- This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.
- TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D) Not regulated.
- CERCLA Hazardous Substance List (40 CFR 302.4) Not listed.
- SARA 304 Emergency release notification Not regulated.
- Superfund Amendments and Reauthorization Act of 1986 (SARA) SARA 302 Extremely hazardous substance Not listed.
- SARA 311/312 Hazardous chemical Yes
Classified hazard categories
Flammable (gases, aerosols, liquids, or solids)
Skin corrosion or irritation
Serious eye damage or eye irritation

SARA 313 (TRI reporting)
Not regulated.

Other federal regulations
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
Not regulated.
Safe Drinking Water Act (SDWA)
FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace
Ethanol (CAS 64-17-5) Low priority

US state regulations
California Proposition 65
WARNING: This product can expose you to chemicals including Cocamide Diethanolamine, which are known to the State of California to cause cancer, and Methanol, which are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

California Proposition 65 - CRT: Listed date/Carcinogenic substance
1,4-dioxane (CAS 123-91-1) Listed: January 1, 1988
Diethanolamine (CAS 111-42-2) Listed: June 22, 2012
Ethylene oxide (CAS 75-21-8) Listed: July 1, 1987
Formaldehyde (CAS 50-00-0) Listed: January 1, 1988

California Proposition 65 - CRT: Listed date/Developmental toxin
Ethylene oxide (CAS 75-21-8) Listed: August 7, 2009
Methanol (CAS 67-56-1) Listed: March 16, 2012

California Proposition 65 - CRT: Listed date/Female reproductive toxin
Ethylene oxide (CAS 75-21-8) Listed: February 27, 1987

California Proposition 65 - CRT: Listed date/Male reproductive toxin
Ethylene oxide (CAS 75-21-8) Listed: August 7, 2009

International Inventories
Country(s) or region Inventory name On inventory (yes/no)*
Australia Australian Inventory of Chemical Substances (AICS) Yes
Canada Domestic Substances List (DSL) Yes
Canada Non-Domestic Substances List (NDSL) No
China Inventory of Existing Chemical Substances in China (IECSC) Yes
Japan Inventory of Existing and New Chemical Substances (ENCS) No
Korea Existing Chemicals List (ECL) Yes
New Zealand New Zealand Inventory (NZIoC) Yes
Philippines Philippine Inventory of Chemicals and Chemical Substances (PICCS) Yes
United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information, including date of preparation or last revision
Issue date 11-10-2014
Revision date 07-16-2018
Version # 02
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Revision information

This document has undergone significant changes and should be reviewed in its entirety.