SAFETY DATA SHEET

1. Identification

Product identifier

<table>
<thead>
<tr>
<th>Product No.</th>
<th>Product name:</th>
<th>Common name(s), synonym(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>554724</td>
<td>BD GolgiStop™ Protein Transport Inhibitor (Containing Monensin)</td>
<td></td>
</tr>
</tbody>
</table>

Other means of identification
SDS number: 088100005886

Recommended use and restriction on use

- **Recommended use:** Scientific and industrial laboratory use. For research use only.
- **Restrictions on use:** Not for use in diagnostic or therapeutic procedures.

Manufacturer/Importer/Supplier/Distributor Information

**Manufacturer**

Company Name: BD Biosciences, Pharmingen
Address: 10975 Torreyana Road
92121 San Diego, CA USA
Telephone: 1 877 232 8995 or 1 800 424 9300
Fax:
Contact Person: Technical Services
E-mail: ResearchApplications@bd.com

Emergency telephone number: ChemTrec 1 800 424 9300

2. Hazard(s) identification

Hazard Classification

**Physical Hazards**
- Flammable liquids: Category 2

**Health Hazards**
- Acute toxicity (Oral): Category 4

Label Elements

**Hazard Symbol:**
Signal Word: Danger

H302: Harmful if swallowed.

Precautionary Statements

Prevention:
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233: Keep container tightly closed.
P240: Ground and bond container and receiving equipment.
P241: Use explosion-proof [electrical/ventilating/lighting/…] equipment.
P242: Use non-sparking tools.
P243: Take action to prevent static discharges.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P264: Wash thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.

Response:
P303+P361+P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P301+P312: IF SWALLOWED: Call a POISON CENTRE/doctor/… if you feel unwell.
P330: Rinse mouth.
P370: In case of fire:
P378: Use… to extinguish.

Storage:
P403: Store in a well-ventilated place.
P235: Keep cool.

Disposal:
P501: Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Other hazards which do not result in GHS classification:
- Static accumulating flammable liquid can become electrostatically charged even in bonded and grounded equipment.
- Sparks may ignite liquid and vapor.
- May cause flash fire or explosion.

3. Composition/information on ingredients
Mixtures

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Common name and synonyms</th>
<th>CAS number</th>
<th>Content in percent (%)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td></td>
<td>64-17-5</td>
<td>50 - &lt;100%</td>
</tr>
<tr>
<td>Monensin, monosodium salt</td>
<td></td>
<td>22373-78-0</td>
<td>0.1 - &lt;1%</td>
</tr>
<tr>
<td>Sodium hydroxide (Na(OH))</td>
<td></td>
<td>1310-73-2</td>
<td>0 - &lt;0.1%</td>
</tr>
</tbody>
</table>

* All concentrations are percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures

General information: Harmful if swallowed. Get immediate medical advice/attention.

Ingestion: Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person.

Inhalation: Provide fresh air, warmth and rest, preferably in comfortable upright sitting position.

Skin Contact: Wash contact areas with soap and water. Remove contaminated clothing. Launder contaminated clothing before reuse.

Eye contact: Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses.

Most important symptoms/effects, acute and delayed

Symptoms: No data available.

Indication of immediate medical attention and special treatment needed

Treatment: No data available.

5. Fire-fighting measures


Suitable (and unsuitable) extinguishing media

Suitable extinguishing media: Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media: Avoid water in straight hose stream; will scatter and spread fire.
Specific hazards arising from the chemical:

Fire or excessive heat may produce hazardous decomposition products.

Special protective equipment and precautions for firefighters

Special fire fighting procedures:
The product is highly flammable and may be ignited even after short contact with an ignition source. May explode when heated or when exposed to flames or sparks. May travel considerable distance to source of ignition and flash back.

Special protective equipment for fire-fighters:
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:
Contact local authorities in case of spillage to drain/aquatic environment. Ensure suitable personal protection (including respiratory protection) during removal of spillages in a confined area.

Methods and material for containment and cleaning up:
Remove sources of ignition. Beware of the explosion danger. All equipment used when handling the product must be grounded. Absorb spillage with suitable absorbent material. Prevent runoff from entering drains, sewers, or streams. Prevent spreading of vapors through sewers, ventilation systems and confined areas. See Section 8 of the SDS for Personal Protective Equipment. For waste disposal, see section 13 of the SDS. Spills should be absorbed and collected for disposal by a permitted chemical waste disposal agency.

Environmental Precautions:
Avoid release to the environment.

7. Handling and storage

Precautions for safe handling:
The product is highly flammable, and explosive vapor/air mixtures may be formed even at normal room temperatures. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. When using do not eat, drink or smoke. Use spark-proof tools and explosion-proof equipment. Use personal protective equipment as required. Read and follow manufacturer’s recommendations.

Conditions for safe storage, including any incompatibilities:
Keep container tightly closed. Keep in a cool, ventilated location far from heat source and flame

8. Exposure controls/personal protection

Control Parameters

Occupational Exposure Limits

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Type</th>
<th>Exposure Limit Values</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SDS_US
4/14
<table>
<thead>
<tr>
<th>Substance</th>
<th>TWA/STEL/PEL</th>
<th>Value</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>TWA</td>
<td>1,000 ppm</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>1,900 mg/m³</td>
<td>US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)</td>
</tr>
<tr>
<td></td>
<td>AN ESL</td>
<td>1,000 ppb</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)</td>
</tr>
<tr>
<td></td>
<td>ST ESL</td>
<td>10,000 ppb</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (12 2010)</td>
</tr>
<tr>
<td>Sodium hydroxide (Na(OH))</td>
<td>Ceiling</td>
<td>2 mg/m³</td>
<td>US. OSHA Table Z-1-A (29 CFR 1910.1000) (1989)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 mg/m³</td>
<td>US. Tennessee. OELs. Occupational Exposure Limits, Table Z1A (06 2008)</td>
</tr>
<tr>
<td>Sodium hydroxide (Na(OH)) - Particulate.</td>
<td>AN ESL</td>
<td>2 µg/m³</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)</td>
</tr>
<tr>
<td></td>
<td>ST ESL</td>
<td>20 µg/m³</td>
<td>US. Texas. Effects Screening Levels (Texas Commission on Environmental Quality) (07 2011)</td>
</tr>
<tr>
<td>Sodium hydroxide (Na(OH))</td>
<td>Ceiling</td>
<td>2 mg/m³</td>
<td>US. California Code of Regulations, Title 8, Section 5155. Airborne Contaminants (08 2010)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2 mg/m³</td>
<td>US. ACGIH Threshold Limit Values (12 2010)</td>
</tr>
<tr>
<td></td>
<td>Ceil_Time</td>
<td>2 mg/m³</td>
<td>US. NIOSH: Pocket Guide to Chemical Hazards (2005)</td>
</tr>
<tr>
<td></td>
<td>PEL</td>
<td>2 mg/m³</td>
<td>US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000) (02 2006)</td>
</tr>
</tbody>
</table>

**Appropriate Engineering Controls**

Use explosion-proof ventilation equipment. Adequate ventilation should be provided so that exposure limits are not exceeded.

**Individual protection measures, such as personal protective equipment**

**General information:**
Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing to remove contaminants. Discard contaminated footwear that cannot be cleaned.

**Eye/face protection:**
Wear safety glasses with side shields (or goggles).

**Skin Protection**

**Hand Protection:** Chemical resistant gloves Suitable gloves can be recommended by the glove supplier. Wash hands after contact.
Other: Wear a lab coat or similar protective clothing.

Respiratory Protection: 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.

Hygiene measures: Observe good industrial hygiene practices.

9. Physical and chemical properties

Appearance

Physical state: liquid
Form: liquid
Color: Colorless
Odor: Odorless
Odor threshold: No data available.
pH: Not applicable
Melting point/freezing point: The physical-chemical properties of this material have not been fully investigated.
Initial boiling point and boiling range: 78 °C The physical-chemical properties of this material have not been fully investigated.
Flash Point: 13 °C The physical-chemical properties of this material have not been fully investigated.
Evaporation rate: No data available.
Flammability (solid, gas): No data available.
Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%): No data available.
Flammability limit - lower (%): No data available.
Explosive limit - upper (%): No data available.
Explosive limit - lower (%): No data available.
Vapor pressure: No data available.
Vapor density: No data available.
Relative density: No data available.
Solubility(ies)

Solubility in water: Soluble
Solubility (other): The physical-chemical properties of this material have not been fully investigated.
Partition coefficient (n-octanol/water): No data available.
Auto-ignition temperature: No data available.
Decomposition temperature: No data available.
Viscosity: Not determined.
10. Stability and reactivity

Reactivity: Stable under normal temperature conditions and recommended use.

Chemical Stability: Material is stable under normal conditions.

Possibility of hazardous reactions: Not determined.

Conditions to avoid: Avoid exposure to high temperatures or direct sunlight. Flammable/combustible - Keep away from oxidizers, heat and flames. Keep away from sources of ignition - No smoking.

Incompatible Materials: Water reactive material.

Hazardous Decomposition Products: Stable; however, may decompose if heated.

11. Toxicological information

General information: Harmful if swallowed.

Information on likely routes of exposure

Ingestion: Harmful if swallowed.

Inhalation: Limited inhalation hazard at normal work temperatures.

Skin Contact: Negligible irritation to skin at ambient temperatures.

Eye contact: Elevated temperatures or mechanical action may form vapors, mist, or fumes which may be irritating to the eyes, nose, throat, or lungs.

Symptoms related to the physical, chemical and toxicological characteristics

Ingestion: No data available.

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product: ATEmix: 1,946.56 mg/kg

Dermal Product: No data available.
Inhalation
Product: No data available.

Repeated dose toxicity
Product: Not applicable

Skin Corrosion/Irritation
Product: Based on available data, the classification criteria are not met.

Serious Eye Damage/Eye Irritation
Product: No data available.

Respiratory or Skin Sensitization
Product: No data available.

Specified substance(s):
Ethanol
Based on available data, the classification criteria are not met.
Skin sensitization:, in vivo (Guinea pig): Non sensitising

Carcinogenicity
Product: Based on available data, the classification criteria are not met.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:
No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:
No carcinogenic components identified

No carcinogenic components identified

Germ Cell Mutagenicity

In vitro
Product: Not applicable

In vivo
Product: Not applicable

Reproductive toxicity
Product: Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity - Single Exposure
Product: Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity - Repeated Exposure
Product: Based on available data, the classification criteria are not met.

Aspiration Hazard
Product: Based on available data, the classification criteria are not met.

Other effects: None known.

12. Ecological information

Ecotoxicity:

Acute hazards to the aquatic environment:

Fish
Product: No data available.

Specified substance(s):
- Ethanol
  - LC 50 (Fathead Minnow, 96 h): 14,200 mg/l
  - LC 50 (Fathead Minnow, 96 h): 15,300 mg/l
  - LC 50 (Rainbow trout, donaldson trout (Oncorhynchus mykiss), 24 h): 11,200 mg/l Mortality

- Sodium hydroxide (Na(OH))
  - LC 50 (Western mosquitofish (Gambusia affinis), 48 h): 125 mg/l Mortality
  - LC 50 (Goldfish (Carassius auratus), 24 h): 160 mg/l Mortality
  - LC 50 (Bony fish superclass (Osteichthyes), 48 h): 33 - 100 mg/l Mortality
  - LC 50 (Western mosquitofish (Gambusia affinis), 96 h): 125 mg/l Mortality
  - LC 50 (Guppy (Poecilia reticulata), 24 h): 145 mg/l Mortality

Aquatic Invertebrates
Product: No data available.

Specified substance(s):
- Ethanol
  - LC 50 (Water flea (Ceriodaphnia dubia), 48 h): 5,012 mg/l
  - LC 50 (Grass shrimp, freshwater prawn (Palaemonates kadiakensis), 18 h): 10,100 mg/l
  - LC 50 (Grass shrimp, freshwater prawn (Palaemonates kadiakensis), 96 h): > 250 mg/l Mortality
  - LC 50 (Ceriodaphnia dubia, 48 h): 5,012 mg/l Experimental result, Key study

- Sodium hydroxide (Na(OH))
  - LOAEL (Daphnia magna): 40 - 240 mg/l Experimental result, Supporting study
  - LC 50 (Ophryotrocha diadema, 48 h): 33 - 100 mg/l Experimental result, Supporting study
  - LC 50 (Saltwater Shrimp, 48 h): 30 - 100 mg/l Experimental result, Supporting study
  - LC (Bulinus truncatus, 96 h): 150 mg/l Experimental result, Supporting study
  - LD (Freshwater insect larvae): 125 - 1,000 mg/l Not specified, Supporting study

Chronic hazards to the aquatic environment:

Fish
Product: No data available.
Specified substance(s):
Ethanol

**Aquatic Invertebrates**

- **Product:** No data available.

**Specified substance(s):**
Ethanol

EC 50 (Oryzias latipes, 200 h): 10,270 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
NOAEL (Oryzias latipes, 200 h): 11,850 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
LOAEL (Oryzias latipes, 200 h): 39,505 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
EC 50 (Oryzias latipes, 200 h): 9,164 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study
EC 50 (Oryzias latipes, 200 h): 14,536 mg/l Read-across from supporting substance (structural analogue or surrogate), Supporting study

**Toxicity to Aquatic Plants**

- **Product:** No data available.

**Specified substance(s):**
Ethanol

EC10 (Water flea (Daphnia magna), 10 d): 454 mg/l
NOEC (Water flea (Daphnia magna), 10 d): 9.6 mg/l
LC 50 (Daphnia magna, 9 d): 454 mg/l Experimental result, Key study
NOAEL (Biomphalaria tenagophila, 8 Weeks): 19.8 mg/l Experimental result, Supporting study
LOAEL (Palaemonetes pugio, 12 d): 0.39 g/l Experimental result, Supporting study

**Persistence and Degradability**

**Biodegradation**

- **Product:** Expected to be readily biodegradable.

**BOD/COD Ratio**

- **Product:** No data available.

**Bioaccumulative potential**

**Bioconcentration Factor (BCF)**

- **Product:** No data available.

**Specified substance(s):**
Ethanol Potential to bioaccumulate is low.
Cyprinus carpio, Bioconcentration Factor (BCF): 4.5 Aquatic sediment Read-across from supporting substance (structural analogue or surrogate), Supporting study
Cyprinus carpio, Bioconcentration Factor (BCF): 3 Aquatic sediment Read-across from supporting substance (structural analogue or surrogate), Supporting study
Leuciscus idus, Bioconcentration Factor (BCF): 0.2 Aquatic sediment Read-across from supporting substance (structural analogue or surrogate), Not specified
Cyprinus carpio, Bioconcentration Factor (BCF): 1 Aquatic sediment Read-across from supporting substance (structural analogue or surrogate), Supporting study

Partition Coefficient n-octanol / water (log Kow)
Product: Log Kow: No data available.

Mobility in soil: No data available.

Known or predicted distribution to environmental compartments
Ethanol soil - Very mobile liquid
Monensin, monosodium salt No data available.
Sodium hydroxide (Na(OH)) No data available.

Other adverse effects: Toxic to aquatic organisms.

13. Disposal considerations

General information: Dispose of waste and residues in accordance with local authority requirements. This product is highly flammable. Don't use fire to cut empty container after use.

Disposal instructions: Dispose of waste at an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

Contaminated Packaging: No data available.
14. Transport information

DOT
UN Number: UN 1170
UN Proper Shipping Name: Ethyl alcohol solutions
Transport Hazard Class(es):
  Class: 3
  Label(s): 3
Packing Group: II
Marine Pollutant: No
Special precautions for user: EQ

IMDG
UN Number: UN 1170
UN Proper Shipping Name: ETHYL ALCOHOL SOLUTION
Transport Hazard Class(es):
  Class: 3
  Subsidiary risk: 3
  EmS No.: F-E, S-D
Packing Group: II
Environmental Hazards
Marine Pollutant: No
Special precautions for user: EQ

IATA
UN Number: UN 1170
Proper Shipping Name: Ethyl alcohol solution
Transport Hazard Class(es):
  Class: 3
  Subsidiary risk: 3
Packing Group: II
Environmental Hazards
Marine Pollutant: No
Special precautions for user: EQ

15. Regulatory information

US Federal Regulations

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)
  None present or none present in regulated quantities.

US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)
  None present or none present in regulated quantities.
CERCLA Hazardous Substance List (40 CFR 302.4):

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1000 lbs.</td>
</tr>
<tr>
<td>(Na(OH))</td>
<td></td>
</tr>
</tbody>
</table>

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
- Immediate (Acute) Health Hazards
- Flammable (gases, aerosols, liquids, or solids)
- Acute toxicity (any route of exposure)
- Hazards Not Otherwise Classified (HNOC)

SARA 302 Extremely Hazardous Substance
None present or none present in regulated quantities.

SARA 304 Emergency Release Notification

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>100 lbs.</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>1000 lbs.</td>
</tr>
<tr>
<td>(Na(OH))</td>
<td></td>
</tr>
</tbody>
</table>

SARA 311/312 Hazardous Chemical

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Threshold Planning Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Monensin, monosodium salt</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>Sodium hydroxide</td>
<td>10000 lbs</td>
</tr>
<tr>
<td>(Na(OH))</td>
<td></td>
</tr>
</tbody>
</table>

SARA 313 (TRI Reporting)
None present or none present in regulated quantities.

Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3)

<table>
<thead>
<tr>
<th>Chemical Identity</th>
<th>Reportable quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium hydroxide</td>
<td>Reportable quantity: 1000 lbs.</td>
</tr>
<tr>
<td>(Na(OH))</td>
<td></td>
</tr>
</tbody>
</table>

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130):
None present or none present in regulated quantities.

US State Regulations

US. California Proposition 65

US. New Jersey Worker and Community Right-to-Know Act

<table>
<thead>
<tr>
<th>Chemical Identity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethanol</td>
</tr>
</tbody>
</table>
US. Massachusetts RTK - Substance List
Chemical Identity
Ethanol

US. Pennsylvania RTK - Hazardous Substances
Chemical Identity
Ethanol

US. Rhode Island RTK
Chemical Identity
Ethanol

16. Other information, including date of preparation or last revision

Issue Date: 09/21/2018

Version #: 1.0

Revision Information: No data available.

Disclaimer:
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