



# SAFETY DATA SHEET

## 1. Identification

**Product identifier** BiCAT® 8210

**Other means of identification**

**Product Code** 1426

**Recommended use** Catalyst.

**Recommended restrictions** None known.

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Manufacturer / Supplier:** The Shepherd Chemical Company

**Address:** 4900 Beech Street  
Norwood, Ohio 45212 USA

**Telephone:** 513-731-1110

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**Emergency USA:** CHEMTREC: 800-424-9300

**Emergency International:** CHEMTREC: 00 1 703-527-3887

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## 2. Hazard(s) identification

**Physical hazards** Not classified.

**Health hazards** Reproductive toxicity (the unborn child) Category 2

**Environmental hazards** Not classified.

**OSHA defined hazards** Not classified.

\*Hazards not stated here are "Not classified", "Not applicable" or "Classification not possible".

### Label elements



**Signal word** Warning

**Hazard statement** Suspected of damaging fertility or the unborn child.

**Precautionary statement**

**Prevention** Wear protective gloves/protective clothing/eye protection/face protection. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

**Response** If exposed or concerned: Get medical advice/attention.

**Storage** Store locked up.

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

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Bismuth tris(2-ethylhexanoate)		67874-71-9	80 - 90

Chemical name	Common name and synonyms	CAS number	%
2-Ethylhexanoic acid		149-57-5	10 - 20

CLP: Regulation No. 1272/2008.  
67/548: Directive 67/548/EEC.

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

**Composition comments** The full text for all R-phrases is displayed in Section 16 of the SDS. All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

#### 4. First-aid measures

<b>Inhalation</b>	Move injured person into fresh air and keep person calm under observation. If uncomfortable: Seek hospital and take along these instructions.
<b>Skin contact</b>	Immediately flush skin with plenty of water. Get medical attention if irritation persists after washing.
<b>Eye contact</b>	Immediately flush with plenty of water for up to 15 minutes. Remove any contact lenses and open eyes wide apart.
<b>Ingestion</b>	Do not induce vomiting without advice from poison control center.
<b>Most important symptoms/effects, acute and delayed</b>	Coughing. Dizziness. Redness.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	IF exposed or concerned: Get medical advice/attention. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Foam. Powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire. None known.
<b>Specific hazards arising from the chemical</b>	Fire may produce irritating, corrosive and/or toxic gases. During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Selection of respiratory protection for fire fighting: follow the general fire precautions indicated in the workplace.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

#### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. See Section 8 of the SDS for Personal Protective Equipment. For personal protection, see section 8 of the SDS. Avoid any exposure.
<b>Methods and materials for containment and cleaning up</b>	Use water spray to reduce vapors or divert vapor cloud drift. This product is miscible in water.  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. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.  Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
<b>Environmental precautions</b>	Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. 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. Keep away from heat, sparks and open flame. Provide adequate ventilation. Avoid prolonged exposure. Pregnant or breastfeeding women must not handle this product. Should be handled in closed systems, if possible. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Avoid any exposure. Use product only in closed system. If enclosed handling cannot be guaranteed, ventilation and protective clothing must be used. Pregnant women should not work with the product, if there is the least risk of exposure. Wear approved safety goggles. Wear suitable protective clothing and gloves.

### Conditions for safe storage, including any incompatibilities

Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS). Store in tightly closed original container in a cool, dry well-ventilated place.

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. ACGIH Threshold Limit Values

Components	Type	Value	Percent	Form
2-Ethylhexanoic acid (149-57-5)	TWA	5 mg/m <sup>3</sup>	10 - 20%	Inhalable fraction and vapor.

### Biological limit values

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

### Exposure guidelines

This material does not have established exposure limits.

### Appropriate engineering controls

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. Provide adequate ventilation and minimize the risk of inhalation of vapors and mists. Should be handled in closed systems, if possible. If enclosed handling cannot be guaranteed, ventilation and protective clothing must be used. Make sure to provide adequate control by applying the "COSHH Essentials" procedure.

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

#### Eye/face protection

Chemical respirator with organic vapor cartridge and full facepiece. Wear approved safety goggles.

#### Skin protection

##### Hand protection

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier. Nitrile gloves are recommended, but be aware that the liquid may penetrate the gloves. Frequent change is advisable.

##### Other

Use of an impervious apron is recommended. Wear appropriate clothing to prevent any possibility of skin contact.

#### Respiratory protection

Chemical respirator with organic vapor cartridge and full facepiece. In case of inadequate ventilation use suitable respirator. Use respiratory equipment with gas filter, type A2.

#### Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

### General hygiene considerations

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. Observe any medical surveillance requirements.

## 9. Physical and chemical properties

### Appearance

Brown. Liquid.

#### Physical state

Liquid.

#### Form

Liquid.

#### Color

Brown.

### Odor

fatty odor.

### Odor threshold

Not available.

### pH

Not available.

### Melting point/freezing point

-181 °F (-118.33 °C)

### Initial boiling point and boiling range

> 227 °F (> 108.33 °C)

### Flash point

> 256.0 °F (> 124.4 °C) Pensky-Martens Closed Cup

<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	0.01 hPa estimated
<b>Vapor density</b>	Not available.
<b>Relative density</b>	1.3
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Negligible.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	699.8 °F (371 °C) estimated
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	1.28 - 1.34 g/cm <sup>3</sup>
<b>Explosive properties</b>	Not explosive.
<b>Flammability class</b>	Combustible IIIB estimated
<b>Flash point class</b>	Combustible IIIB
<b>Oxidizing properties</b>	Not oxidizing.
<b>Specific gravity</b>	1.28 - 1.34
<b>Loose Packing Density</b>	Not available.

## 10. Stability and reactivity

<b>Reactivity</b>	The product is stable and non-reactive under normal conditions of use, storage and transport.
<b>Chemical stability</b>	Stable under normal temperature conditions.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Conditions to avoid</b>	Contact with incompatible materials. Heat, sparks, flames.
<b>Incompatible materials</b>	Acids and bases. Strong oxidizing agents.
<b>Hazardous decomposition products</b>	Carbon oxides.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Prolonged inhalation may be harmful.
<b>Skin contact</b>	No adverse effects due to skin contact are expected.
<b>Eye contact</b>	Direct contact with eyes may cause temporary irritation.
<b>Ingestion</b>	Expected to be a low ingestion hazard.

**Symptoms related to the physical, chemical and toxicological characteristics** Direct contact with eyes may cause temporary irritation.

### Information on toxicological effects

<b>Acute toxicity</b>	May cause skin and eye irritation. In high concentrations, vapors may be irritating to the respiratory system.
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.
<b>Serious eye damage/eye irritation</b>	None known.

## Respiratory or skin sensitization

**Respiratory sensitization** Not a respiratory sensitizer.

**Skin sensitization** None known.

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity** Not classified.

### IARC Monographs. Overall Evaluation of Carcinogenicity

Not applicable.

### US. National Toxicology Program (NTP) Report on Carcinogens

Not applicable.

**Reproductive toxicity** Possible risk of harm to the unborn child. Suspected of damaging fertility or the unborn child.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Not an aspiration hazard.

**Chronic effects** Prolonged inhalation may be harmful. Prolonged skin contact may defat the skin and produce dermatitis.

**Further information** If absorbed, bismuth compounds may affect the kidneys and liver.

## 12. Ecological information

**Ecotoxicity** The product components are not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

**Persistence and degradability** The product is not expected to be biodegradable.

**Bioaccumulative potential** No data available on bioaccumulation.

### Partition coefficient n-octanol / water (log Kow)

2-Ethylhexanoic acid 2.64

**Mobility in soil** No data available.

**Other adverse effects** None known.

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable 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** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### DOT

Not regulated as dangerous goods.

### IATA

Not regulated as dangerous goods.

### IMDG

Not regulated as dangerous goods.

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** Not established.

## 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.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**Hazard categories** Immediate Hazard - No  
Delayed Hazard - Yes  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

Not regulated.

**Other federal regulations**

**Safe Drinking Water Act (SDWA)** Not regulated.

**US state regulations**

**US - New Jersey RTK - Substances: Listed substance**

2-Ethylhexanoic acid (CAS 149-57-5)

**US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. Massachusetts RTK - Substance List**

Not regulated.

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

Not regulated.

**US. Pennsylvania RTK - Hazardous Substances**

Not regulated.

**US. Pennsylvania Worker and Community Right-to-Know Law**

Not listed.

**US. Rhode Island RTK**

Not regulated.

**US. California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**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
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

<b>Country(s) or region</b>	<b>Inventory name</b>	<b>On inventory (yes/no)*</b>
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** 08-07-2014

**Revision date** 10-04-2016

**Version #** 03

**Disclaimer** The Shepherd Chemical Company cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

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