SAFETY DATA SHEET
500132 ETHYL BUTYRATE NATURAL

1. IDENTIFICATION

Product Description: ETHYL BUTYRATE NATURAL
CAS # 105-54-4
FEMA Number 2427
Other means of identification
Vigon Item # 500132
Recommended use Concentrated aromatic and flavor ingredient which may be used in flavor and fragrance compounds according to legal and IFRA or FEMA GRAS/FDA guidelines.
Recommended restrictions For Manufacturing Use Only

Company Vigon International, Inc.
127 Airport Road
E. Stroudsburg, PA 18301
For information call: 570-476-6300
Web Site: www.vigon.com

Manufacturer/Importer/Supplier/Distributor information
Manufacturer
Company name Vigon International, Inc.
Address 127 Airport Road
E. Stroudsburg, PA 18301
United States
Telephone For information call: 570-476-6300
Website www.vigon.com
E-mail Not available.
Emergency phone number INFOTRAC (ACCT# 78928);
1-800-535-5053 WITHIN THE U.S.A.
1-352-323-3500 OUTSIDE THE U.S.A.

2. HAZARD(S) IDENTIFICATION

Physical hazards Flammable liquids Category 3
Health hazards Acute toxicity, dermal Category 5
Skin corrosion/irritation Category 2
Serious eye damage/eye irritation Category 2A
Specific target organ toxicity, single exposure Category 3 respiratory tract irritation

Environmental hazards Not classified.

Label elements
SAFETY DATA SHEET

500132 ETHYL BUTYRATE NATURAL

Signal word
Warning

Hazard statement
Flammable liquid and vapor. May be harmful in contact with skin. Causes skin irritation. Causes skin and eye irritation. Causes serious eye irritation. May cause respiratory irritation.

Precautionary statement

Prevention
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. 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. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTER/doctor if you feel unwell. If skin irritation occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish.

Storage
Keep cool. Store in a well-ventilated place. Keep container tightly closed. 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
100% of the substance consists of component(s) of unknown acute inhalation toxicity. 100% of the substance consists of component(s) of unknown acute hazards to the aquatic environment. 100% of the substance consists of component(s) of unknown long-term hazards to the aquatic environment.

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>ETHYL BUTYRATE</td>
<td>BUTYRIC ETHER ETHYL BUTANOATE ETHYL N-BUTYRATE N-ETHYL BUTYRATE</td>
<td>105-54-4</td>
<td>100</td>
</tr>
</tbody>
</table>

4. FIRST-AID MEASURES

Inhalation
If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. For breathing difficulties, oxygen may be necessary. Call a physician if symptoms develop or persist.

Skin contact
Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash skin thoroughly with soap and water for several minutes.

Eye contact
Remove contact lenses, if present and easy to do. Get medical attention if irritation develops and persists. Promptly wash eyes with plenty of water while lifting the eye lids.

Ingestion
Call a physician or poison control center immediately. If swallowed, rinse mouth with water (only if the person is conscious). Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs.
Most important symptoms/effects, acute and delayed
Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

Indication of immediate medical attention and special treatment needed
Not available.

General information
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

Suitable extinguishing media
Water spray, fog, CO2, dry chemical, or alcohol resistant foam.

Unsuitable extinguishing media
Do not use a solid water stream as it may scatter and spread fire.

Specific hazards arising from the chemical
Fire may produce irritating, corrosive and/or toxic gases.

Special protective equipment and precautions for firefighters
Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Structural firefighters protective clothing will only provide limited protection. Wear self-contained breathing apparatus with a full facepiece operated in the positive pressure demand mode when fighting fires.

Fire fighting equipment/instructions
In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Water runoff can cause environmental damage. Ventilate closed spaces before entering them. Keep run-off water out of sewers and water sources. Dike for water control.

Specific methods
Use water spray to cool unopened containers.

General fire hazards
Static charges generated by emptying package in or near flammable vapor may cause flash fire.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor. Keep unnecessary personnel away. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them.
Collect and dispose of spillage as indicated in section 13 of the SDS.

Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps.

The product is immiscible with water and will spread on the water surface.

Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible.

Never return spills in original containers for re-use. This material and its container must be disposed of as hazardous waste. Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Prevent product from entering drains.

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.

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

Retain and dispose of contaminated wash water. 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.

Do not handle or store near an open flame, heat or other sources of ignition. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Avoid breathing vapor. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Wash thoroughly after handling.

Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area.

This substance has no PEL, TLV, or other recommended exposure limit.

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

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

Wear safety glasses with side shields (or goggles).

Chemical resistant gloves.

Wear suitable protective clothing.

Respiratory protection not required. If ventilation is insufficient, suitable respiratory protection must be provided.

Wear appropriate thermal protective clothing, when necessary.
### General hygiene considerations
When using do not 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

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Appearance</strong></td>
<td>Refer to Spec Sheet</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Form</td>
<td>Liquid.</td>
</tr>
<tr>
<td>Color</td>
<td>Refer to Spec Sheet</td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic.</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>Not available.</td>
</tr>
<tr>
<td>pH</td>
<td>Not available.</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>-149.44 °F (-100.8 °C)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>248 - 249.8 °F (120 - 121 °C)</td>
</tr>
<tr>
<td>Flash point</td>
<td>75.0 °F (23.9 °C) Closed Cup</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable.</td>
</tr>
<tr>
<td>Upper/lower flammability or explosive limits</td>
<td></td>
</tr>
<tr>
<td>Flammability limit - lower (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Flammability limit - upper (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive limit - lower (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Explosive limit - upper (%)</td>
<td>Not available.</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>10 mm Hg at 59 °F</td>
</tr>
<tr>
<td>Vapor density</td>
<td>4</td>
</tr>
<tr>
<td>Relative density</td>
<td>Not available.</td>
</tr>
<tr>
<td>Solubility(ies)</td>
<td></td>
</tr>
<tr>
<td>Solubility (water)</td>
<td>Insoluble</td>
</tr>
<tr>
<td>Partition coefficient (n-octanol/water)</td>
<td>1.73</td>
</tr>
<tr>
<td>Auto-ignition temperature</td>
<td>865 °F (462.78 °C)</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>Not available.</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not available.</td>
</tr>
<tr>
<td>Other information</td>
<td></td>
</tr>
<tr>
<td>Density</td>
<td>0.88 g/cm3 estimated at 20 °C</td>
</tr>
<tr>
<td>Dynamic viscosity</td>
<td>0.71 mPa.s (59 °F (15 °C))</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive.</td>
</tr>
<tr>
<td>Flammability class</td>
<td>Flammable IC estimated</td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>0.809 mm²/s estimated</td>
</tr>
</tbody>
</table>

Refer to Spec Sheet for more specific properties and safety information.
Molecular formula: C6-H12-O2
Molecular weight: 116.16 g/mol
Oxidizing properties: Not oxidizing.
Specific gravity: 0.87 at 20 °C
Surface tension: 24.5 mN/m (68 °F (20 °C))

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: Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials: Strong oxidizing agents.
Hazardous decomposition products: No hazardous decomposition products if stored and handled as indicated.

11. TOXICOLOGICAL INFORMATION
Information on likely routes of exposure
Inhalation: May cause irritation to the respiratory system.
Skin contact: May be harmful in contact with skin. Causes skin irritation.
Eye contact: Causes serious eye irritation.
Ingestion: Expected to be a low ingestion hazard.
Symptoms related to the physical, chemical and toxicological characteristics: Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain.

Information on toxicological effects
Acute toxicity: In high concentrations, vapors are anesthetic and may cause headache, fatigue, dizziness and central nervous system effects. May be harmful in contact with skin.

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHYL BUTYRATE (CAS 105-54-4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acute</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dermal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rabbit</td>
<td>&gt; 2000 mg/kg</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin - rabbit - Moderate skin irritation - 24 h</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Causes serious eye irritation.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory or skin sensitization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Respiratory sensitization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skin sensitization</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Due to partial or complete lack of data the classification is not possible.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Due to partial or complete lack of data the classification is not possible.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Germ cell mutagenicity
Due to partial or complete lack of data the classification is not possible.

Carcinogenicity
Due to partial or complete lack of data the classification is not possible.

IARC Monographs. Overall Evaluation of Carcinogenicity
Not listed.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)
Not listed.

US. National Toxicology Program (NTP) Report on Carcinogens
Not listed.

Reproductive toxicity
Due to partial or complete lack of data the classification is not possible.

Specific target organ toxicity - single exposure
May cause respiratory irritation.

Specific target organ toxicity - repeated exposure
Due to partial or complete lack of data the classification is not possible.

Aspiration hazard
Due to partial or complete lack of data the classification is not possible.

12. ECOLOGICAL INFORMATION

Ecotoxicity
The product is 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.

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<tr>
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<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>ETHYL BUTYRATE (CAS 105-54-4)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Aquatic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>LC50 Water flea (Daphnia magna)</td>
<td>755 mg/l, 24 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC0 Carp (Leuciscus idus melanotus)</td>
<td>35 mg/kg, 48 hours</td>
</tr>
<tr>
<td></td>
<td>LC50 Carp (Leuciscus idus melanotus)</td>
<td>53 mg/l, 48 hours</td>
</tr>
</tbody>
</table>

Persistence and degradability
No data is available on the degradability of this substance.

Bioaccumulative potential
Partition coefficient n-octanol / water (log Kow)
1.73

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.

13. DISPOSAL CONSIDERATIONS

Disposal instructions
Do not discharge into drains, water courses or onto the ground. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. 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
Not established.

Waste from residues / unused products
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

ADN
- UN number: 1180
- UN proper shipping name: ETHYL BUTYRATE
- Transport hazard class(es): 3
- Subsidiary class(es): -
- Packing group: III
- Environmental hazards: No
- Labels required: 3

ADR
- UN number: 1180
- UN proper shipping name: ETHYL BUTYRATE
- Transport hazard class(es): 3
- Subsidiary class(es): -
- Packing group: III
- Environmental hazards: No
- Labels required: 3

RID
- UN number: 1180
- UN proper shipping name: ETHYL BUTYRATE
- Transport hazard class(es): 3
- Subsidiary class(es): -
- Packing Group: III
- Environmental Hazards: No
- Labels required: 3
- Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.

DOT

BULK
- UN number: 1180
- Proper shipping name: ETHYL BUTYRATE
- Hazard class: 3
- Packing group: III
- Environmental hazards
  - Marine pollutant: No
- Packaging exceptions: 150
- Packaging bulk: 242
- Labels required: 3

DOT

NON-BULK
- UN number: 1180
- Proper shipping name: ETHYL BUTYRATE
- Hazard class: 3
### Packing group
III

### Environmental hazards
No

### Marine pollutant
No

### Packaging exceptions
150

### Packaging non bulk
203

### Labels required
3

#### IATA

<table>
<thead>
<tr>
<th>UN number</th>
<th>1180</th>
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</thead>
<tbody>
<tr>
<td>UN proper shipping name</td>
<td>ETHYL BUTYRATE</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>3</td>
</tr>
<tr>
<td>Subsidiary class(es)</td>
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<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Environmental hazards</td>
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</tr>
<tr>
<td>Labels required</td>
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</table>

#### IMDG

<table>
<thead>
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<th>1180</th>
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<tbody>
<tr>
<td>UN proper shipping name</td>
<td>ETHYL BUTYRATE</td>
</tr>
<tr>
<td>Transport hazard class(es)</td>
<td>3</td>
</tr>
<tr>
<td>Subsidiary class(es)</td>
<td>-</td>
</tr>
<tr>
<td>Packing group</td>
<td>III</td>
</tr>
<tr>
<td>Environmental hazards</td>
<td>Marine pollutant No</td>
</tr>
<tr>
<td>Labels required</td>
<td>3</td>
</tr>
<tr>
<td>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</td>
<td>Not applicable.</td>
</tr>
</tbody>
</table>

ADM; ADR; DOT BULK; DOT NON-BULK; IATA; IMDG; RID

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**15. REGULATORY INFORMATION**

**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**Toxic Substances Control Act (TSCA)**

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.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)  
Not listed.

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  
Specific target organ toxicity (single or repeated exposure)  
Hazard not otherwise classified (HNOC)

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)  
Not regulated.

16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION

Issue date 05-19-2015
Revision date 07-17-2019
Version # 06
HMIS® ratings
Health: 2
Flammability: 3
Physical hazard: 0
Disclaimer

Vigon International, Inc. 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. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, and disposal and should not be considered as a guarantee or quality specification. This product has not been evaluated for safe use in e-cigarettes or any vaping application where the product(s) is/are intentionally vaporized and inhaled. Vigon International, Inc. has performed no testing on these products in e-cig/vaping applications. It is the sole responsibility of the individual(s) purchasing this product to assess its safety in the final application. The above information relates only to this product and not to its use in combination with any other material or any particular process and is designed only as guidance for the safe handling, use, processing, storage, transportation, disposal, and should not be considered as a guarantee or quality specification. The above information is based on data provided by and collected from recognized sources such as distributors, manufacturers, and technical groups and is considered to be accurate to the best of Vigon’s knowledge as of the date of this document. It is the responsibility of the user to review all safety information about this product and determine its safety and suitability in their own processes and operations. Appropriate warnings and safe handling procedures should be provided to all handlers and users, taking into account the intended use and the specific conditions and factors relating to such use in accordance with all applicable laws and regulations.

Revision information

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