# SAFETY DATA SHEET

# 500800 ISOAMYL ACETATE FCC EX:FUSEL OIL



## 1. IDENTIFICATION

| | |
|---|---|
| **Product Description:** | **ISOAMYL ACETATE FCC EX:FUSEL OIL** |
| **CAS #** | ISOMER MIXTURE |
| **Other means of identification** | |
| **Vigon Item #** | 500800 |
| **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

24 Hour Emergency Response Information

INFOTRAC (ACCT# 78928);
1-800-535-5053 WITHIN THE U.S.A.
1-352-323-3500 OUTSIDE THE U.S.A.

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

**Manufacturer**

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

## 2. HAZARD(S) IDENTIFICATION

| | | |
|---|---|---|
| **Physical hazards** | Flammable liquids | Category 3 |
| **Health hazards** | Not classified. | |
| **Environmental hazards** | Hazardous to the aquatic environment, acute hazard | Category 3 |
| | Hazardous to the aquatic environment, long-term hazard | Category 3 |

**Label elements**

| | |
|---|---|
| **Signal word** | Warning |
| **Hazard statement** | Flammable liquid and vapor. |

**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. 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. In case of fire: Use appropriate media to extinguish.

**Storage** Store in a well-ventilated place. Keep cool.

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

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

**Supplemental information** 25% of the mixture consists of component(s) of unknown acute oral toxicity. 25% of the mixture consists of component(s) of unknown acute dermal toxicity. 100% of the mixture consists of component(s) of unknown acute inhalation toxicity. 25% of the mixture consists of component(s) of unknown acute hazards to the aquatic environment. 25% of the mixture consists of component(s) of unknown long-term hazards to the aquatic environment.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Mixtures**

| Chemical name | Common name and synonyms | CAS number | % |
|---|---|---|---|
| 3-METHYLBUTYL ACETATE | 3-Methylbutyl acetate<br>3-Methylbutyl ethanoate<br>ISOAMYL ETHANOATE<br>Isopentylacetate | 123-92-2 | 60 - < 90 |
| METHYL-2 BUTYL ACETATE | 2-methyl-1-butanol acetate<br>methyl-2-butyl-acetate<br>2-methylbutyl ethanoate<br>1-butanol, 2-methyl-, acetate | 624-41-9 | 10 - < 40 |

## 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** Direct contact with eyes may cause temporary irritation.

| | |
|---|---|
| **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** | Keep unnecessary personnel away. Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. |
| **Methods and materials for containment and cleaning up** | Eliminate all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb with inert absorbent such as dry clay, sand or diatomaceous earth, commercial sorbents, or recover using pumps.<br><br>The product is immiscible with water and will spread on the water surface.<br><br>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. Prevent product from entering drains. Absorb in vermiculite, dry sand or earth and place into containers.<br><br>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.<br><br>Never return spills in original containers for re-use. This material and its container must be disposed of as hazardous waste. Collect and dispose of spillage as indicated in section 13 of the SDS. |
| **Environmental precautions** | 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. |

## 7. HANDLING AND STORAGE

**Precautions for safe handling** 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.

**Conditions for safe storage, including any incompatibilities** Keep container closed. Handle containers with care. Open slowly in order to control possible pressure release. Store in a cool, well-ventilated area.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Occupational exposure limits**

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

| Components | Type | Value |
|---|---|---|
| 3-METHYLBUTYL ACETATE (CAS 123-92-2) | PEL | 525 mg/m3 |
| | | 100 ppm |

**US. ACGIH Threshold Limit Values**

| Components | Type | Value |
|---|---|---|
| 3-METHYLBUTYL ACETATE (CAS 123-92-2) | STEL | 100 ppm |
| | TWA | 50 ppm |
| METHYL-2 BUTYL ACETATE (CAS 624-41-9) | STEL | 100 ppm |
| | TWA | 50 ppm |

**US. NIOSH: Pocket Guide to Chemical Hazards**

| Components | Type | Value |
|---|---|---|
| 3-METHYLBUTYL ACETATE (CAS 123-92-2) | REL | 525 mg/m3 |
| | | 100 ppm |
| | TWA | 525 mg/m3 |
| | | 100 ppm |

**Biological limit values** No biological exposure limits noted for the ingredient(s).

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

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

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

**Skin protection**

**Hand protection** Chemical resistant gloves.

**Other** Not available.

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

**Thermal hazards** 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

| | |
|---|---|
| **Appearance** | Refer to Spec Sheet |
| **Physical state** | Liquid. |
| **Form** | Liquid. |
| **Color** | Refer to Spec Sheet |
| **Odor** | Characteristic. |
| **Odor threshold** | Not available. |
| **pH** | Not available. |
| **Melting point/freezing point** | Not available. |
| **Initial boiling point and boiling range** | Not available. |
| **Flash point** | 104.0 °F (40.0 °C) Closed Cup |
| **Evaporation rate** | Not available. |
| **Flammability (solid, gas)** | Not applicable. |
| **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 available. |
| **Vapor density** | Not available. |
| **Relative density** | Not available. |
| **Solubility(ies)** | |
| **Solubility (water)** | Insoluble |
| **Partition coefficient (n-octanol/water)** | Not available. |
| **Auto-ignition temperature** | Not available. |
| **Decomposition temperature** | Not available. |
| **Viscosity** | Not available. |
| **Other information** | |
| **Explosive properties** | Not explosive. |
| **Molecular formula** | C7 H14 O2 |
| **Molecular weight** | 130.19 g/mol |
| **Oxidizing properties** | Not oxidizing. |
| **Specific gravity** | 0.87 at 25 °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. Nitrates. |
| **Hazardous decomposition products** | No hazardous decomposition products if stored and handled as indicated. |

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | Prolonged inhalation may be harmful. |
| **Skin contact** | No adverse effects due to skin contact are expected. |
| **Eye contact** | Direct contact with eyes may cause temporary irritation. |
| **Ingestion** | 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**

**Acute toxicity** Not known.

| Components | Species | Test Results |
|---|---|---|
| 3-METHYLBUTYL ACETATE (CAS 123-92-2) | | |
| **Acute** | | |
| *Dermal* | | |
| LD50 | Rabbit | > 5000 mg/kg |
| *Oral* | | |
| LD50 | Rat | > 5000 mg/kg |

| | |
|---|---|
| **Skin corrosion/irritation** | Prolonged skin contact may cause temporary irritation. |
| **Serious eye damage/eye irritation** | Direct contact with eyes may cause temporary irritation. |

**Respiratory or skin sensitization**

| | |
|---|---|
| **Respiratory sensitization** | Not a respiratory sensitizer. |
| **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.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

Not regulated.

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

Not listed.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not available.

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

## 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.

| Components | | Species | Test Results |
|---|---|---|---|
| 3-METHYLBUTYL ACETATE (CAS 123-92-2) | | | |
| **Aquatic** | | | |
| Algae | EC50 | Algae | 450 mg/l, 72 hours |
| | | Green algae (Chlamydomonas variabilis) | 539 mg/l, 72 hours DIN 38412 Part 9 static. The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration. |
| Crustacea | EC50 | Daphnia magna | 42 mg/l, 48 hours DIN 38412 Part 11 static. The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration. |
| Fish | LC100 | Leuciscus idus (Golden orfe) | 148 mg/l, 48 hours |
| | LC50 | Danio rerio | > 22 - < 46 mg/l, 96 hours OECD 203, ISO 7346, 84/449/EEC, C.1 static. The details of the effect relate to the nominal concentration. |
| | | Leuciscus idus (Golden orfe) | > 36 - < 131 mg/l, 48 hours |

| Components | | Species | Test Results |
|---|---|---|---|
| Other | EC10 | Bacterium | 674 mg/l, 30 minutes DIN 38412 Part 27 (draft) aerobic. The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested. The details of the toxic effect relate to the nominal concentration. |
| | EC20 | Activated Sludge | > 1000 mg/l, 30 minutes DIN EN ISO 8192-OECD 209-88/302/EEC,P. C aerobic |

**Persistence and degradability** No data is available on the degradability of any ingredients in the mixture.

**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.

## 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 | 1104 |
| UN proper shipping name | AMYL ACETATES |
| Transport hazard class(es) | 3 |
| Subsidiary class(es) | - |
| Packing group | III |
| Environmental hazards | No |
| Labels required | 3 |

**ADR**

| | |
|---|---|
| UN number | 1104 |
| UN proper shipping name | AMYL ACETATES |
| Transport hazard class(es) | 3 |
| Subsidiary class(es) | - |
| Packing group | III |

| | |
|---|---|
| Environmental hazards | No |
| Labels required | 3 |

**RID**

| | |
|---|---|
| UN number | 1104 |
| UN proper shipping name | AMYL ACETATES |
| 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 | 1104 |
| Proper shipping name | AMYL ACETATES |
| Hazard class | 3 |
| Packing group | III |
| Environmental hazards | |
| Marine pollutant | No |
| Packaging exceptions | 150 |
| Packaging bulk | 242 |
| Reportable quantity | 5000 |
| Labels required | 3 |

**DOT**

**NON-BULK**

Not regulated as dangerous goods.

**IATA**

| | |
|---|---|
| UN number | 1104 |
| UN proper shipping name | AMYL ACETATES |
| Transport hazard class(es) | 3 |
| Subsidiary class(es) | - |
| Packing group | III |
| Environmental hazards | No |
| Labels required | 3 |

**IMDG**

| | |
|---|---|
| UN number | 1104 |
| UN proper shipping name | AMYL ACETATES |
| Transport hazard class(es) | 3 |
| Subsidiary class(es) | - |
| Packing group | III |
| Environmental hazards | |
| Marine pollutant | No |
| Labels required | 3 |

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

**ADN; ADR; DOT BULK; IATA; IMDG; RID**

## 15. REGULATORY INFORMATION

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

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Not listed.

**SARA 304 Emergency release notification**

Not regulated.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not available.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

Not regulated.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

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)

**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.

**US state regulations**

**California Proposition 65**

**California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance**

Not listed.

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

| | |
|---|---|
| **Issue date** | 06-12-2015 |
| **Revision date** | 06-13-2018 |
| **Version #** | 06 |
| **HMIS® ratings** | Health: 1<br>Flammability: 2<br>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**

IDENTIFICATION: Recommended restrictions
HAZARD(S) IDENTIFICATION: Prevention
COMPOSITION/INFORMATION ON INGREDIENTS: Component information
EXPOSURE CONTROLS/PERSONAL PROTECTION: Appropriate engineering controls
Physical & Chemical Properties: Multiple Properties
STABILITY AND REACTIVITY: Incompatible materials
TOXICOLOGICAL INFORMATION: Carcinogenicity
ECOLOGICAL INFORMATION: Ecotoxicity
ECOLOGICAL INFORMATION: Persistence / degradability
REGULATORY INFORMATION: California Proposition 65
OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION: References OTHER INFORMATION, INCLUDING DATE OF PREPARATION OR LAST REVISION: Disclaimer