



SAFETY DATA SHEET

502290 AMYL ISOVALERATE (MIXED ISOMERS 35/65)

Revision Date: 12-16-2014

Page 1 of 9

Version # 01

Print Date: 11-21-2015

1. IDENTIFICATION

| | |
|--------------------------------------|--|
| Product Description: | AMYL ISOVALERATE (MIXED ISOMERS 35/65) |
| CAS # | ISOMER MIXTURE |
| Other means of identification | |
| Vigon Item # | 502290 |
| 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 | 24 Hour Emergency Response Information |
| Vigon International, Inc. | INFOTRAC (ACCT# 78928); |
| 127 Airport Road | 1-800-535-5053 WITHIN THE U.S.A. |
| E. Stroudsburg, PA 18301 | 1-352-323-3500 OUTSIDE THE U.S.A. |
| For information call: 570-476-6300 | |
| Web Site: www.vigon.com | |

2. HAZARD(S) IDENTIFICATION

| | | |
|--|---|------------|
| Physical hazards | Flammable liquids | Category 4 |
| Health hazards | Not classified. | |
| Environmental hazards | Not classified. | |
| Label elements | | |
| Hazard symbol | None. | |
| Signal word | Warning | |
| Hazard statement | | |
| H227 | Combustible liquid. | |
| Precautionary statement | | |
| Prevention | | |
| P210 | Keep away from heat/sparks/open flames/hot surfaces. No smoking. | |
| P280 | Wear protective gloves/eye protection/face protection. | |
| Response | | |
| P370 + P378 | In case of fire: Use appropriate media to extinguish. | |
| Storage | | |
| P403 + P235 | Store in a well-ventilated place. Keep cool. | |
| Disposal | | |
| P501 | 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



SAFETY DATA SHEET

502290 AMYL ISOVALERATE (MIXED ISOMERS 35/65)

Revision Date: 12-16-2014

Page 2 of 9

Version # 01

Print Date: 11-21-2015

The manufacturer lists no ingredients as hazardous according to OSHA 29 CFR 1910.1200.

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. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Eliminate all sources of ignition. Avoid contact with skin or inhalation of spillage, dust or vapor. |
|--|---|



SAFETY DATA SHEET

502290 AMYL ISOVALERATE (MIXED ISOMERS 35/65)

Revision Date: 12-16-2014

Page 3 of 9

Version # 01

Print Date: 11-21-2015

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.

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

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. Do not allow material to contaminate ground water system. 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.

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

Prevent further leakage or spillage if safe to do so. Do not contaminate water. Retain and dispose of contaminated wash water. Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment.

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

No exposure limits noted for ingredient(s).

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.

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.

SAFETY DATA SHEET

502290 AMYL ISOVALERATE (MIXED ISOMERS 35/65)

Revision Date: 12-16-2014

Page 4 of 9

Version # 01

Print Date: 11-21-2015

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 | 377.6 °F (192 °C) |
| Flash point | 145.0 °F (62.8 °C) Closed Cup |
| Evaporation rate | Not available. |
| 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 | 0.66 hPa estimated |
| Vapor density | 6 |
| 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 | |
| Molecular formula | Not applicable |
| Specific gravity | 0.85 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. |



SAFETY DATA SHEET

502290 AMYL ISOVALERATE (MIXED ISOMERS 35/65)

Revision Date: 12-16-2014

Page 5 of 9

Version # 01

Print Date: 11-21-2015

| | |
|---|--|
| 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 | No adverse effects due to inhalation are expected. |
| 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 available.

| Product | Species | Test Results |
|------------------|---------|----------------------------|
| AMYL ISOVALERATE | | |
| Acute | | |
| <i>Oral</i> | | |
| LD50 | Rat | 14285.7139 mg/kg estimated |

* Estimates for product may be based on additional component data not shown.

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 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

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

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 available.

SAFETY DATA SHEET

502290 AMYL ISOVALERATE (MIXED ISOMERS 35/65)

Revision Date: 12-16-2014

Page 6 of 9

Version # 01

Print Date: 11-21-2015

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

14. TRANSPORT INFORMATION

ADN

Not regulated as dangerous goods.

ADR

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

DOT

BULK

| | |
|------------------------------|---|
| UN number | NA1993 |
| Proper shipping name | COMBUSTIBLE LIQUID, N.O.S. (AMYL ISOVALERATE) |
| Hazard class | Combustible liq |
| Packing group | III |
| Environmental hazards | |
| Marine pollutant | No |
| Packaging exceptions | 150 |
| Packaging bulk | 242 |
| Labels required | 3 |

DOT

NON-BULK

Not regulated as dangerous goods.

SAFETY DATA SHEET

502290 AMYL ISOVALERATE (MIXED ISOMERS 35/65)

Revision Date: 12-16-2014

Page 7 of 9

Version # 01

Print Date: 11-21-2015

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

DOT BULK



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.

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

Not listed.

SARA 304 Emergency release notification

Not regulated.

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)

Not listed.

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

Not regulated.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - No
Delayed Hazard - No
Fire Hazard - Yes
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.



SAFETY DATA SHEET

502290 AMYL ISOVALERATE (MIXED ISOMERS 35/65)

Revision Date: 12-16-2014

Page 8 of 9

Version # 01

Print Date: 11-21-2015

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

US. Massachusetts RTK - Substance List

Not regulated.

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

Not listed.

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

Not listed.

US. Rhode Island RTK

Not regulated.

US. California Proposition 65

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

Not listed.

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) | No |
| New Zealand | New Zealand Inventory | 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 11-21-2015

Revision date 12-16-2014



SAFETY DATA SHEET

502290 AMYL ISOVALERATE (MIXED ISOMERS 35/65)

Revision Date: 12-16-2014

Page 9 of 9

Version # 01

Print Date: 11-21-2015

Version #

01

HMIS® ratings

Health: 1

Flammability: 2

Physical hazard: 0

Disclaimer

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, 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.