1. Product and Company Identification

Product identifier: Isobutyl Acetate
Version #: 01
Issue date: 06-24-2014
Chemical name: Isobutyl Acetate
Chemical description: Aliphatic carboxylic acid ester
CAS #: 110-19-0
MSDS Number: COM257
Product use: Professional use only
Synonym(s): Acetic acid, 2-methylpropanyl ester

Manufacturer information:
Supplier: Comet Chemical
3463 Thomas Street
Innisfill, ON L9S 3W4 CA
Information (M-F 8:00-5:00): 705-436-5580
24 Hour Number (Newalta): 800-567-7455

2. Hazards Identification

Emergency overview:
Clear, colorless liquid. Strong fruity odor.
DANGER
EXTREMELY FLAMMABLE LIQUID AND VAPOR.
Will be easily ignited by heat, spark or flames. Vapors may cause a flash fire or ignite explosively.
May cause mild skin and eye irritation. May cause central nervous system effects.

Potential health effects
Routes of exposure: Inhalation. Ingestion. Skin contact. Eye contact.
Eyes:
May cause mild eye irritation.

Skin:
Direct skin contact may cause slight or mild, transient irritation.

Inhalation:
May cause irritation of respiratory tract. May cause irritation to the nose, throat and upper respiratory tract.

Ingestion:
Ingestion of large amounts may cause nausea, vomiting, diarrhea, as well as depression of the central nervous system.

Target organs:
Central nervous system. Respiratory system.

Chronic effects:
Prolonged skin contact may cause dermatitis (rash), characterized by red, dry, itching skin.

Signs and symptoms:
May cause mild eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Direct skin contact may cause slight or mild, transient irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin. May cause central nervous system effects. May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include coughing, choking and wheezing. Ingestion of large amounts may cause nausea, vomiting, diarrhea, as well as depression of the central nervous system. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Potential environmental effects:
See ECOLOGICAL INFORMATION, Section 12.

3. Composition / Information on Ingredients

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS #</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isobutyl Acetate</td>
<td>110-19-0</td>
<td>100</td>
</tr>
</tbody>
</table>

4. First Aid Measures

First aid procedures:
Eye contact: Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Skin contact: Immediately flush skin with plenty of water. Take off immediately all contaminated clothing. Get medical attention if irritation develops and persists. Wash contaminated clothing before reuse.
### 4. Health Information

#### Inhalation
Move to fresh air. If breathing is difficult, trained personnel should give oxygen. If not breathing, give artificial respiration. Seek immediate medical attention/advice.

#### Ingestion
Seek immediate medical attention/advice. Do not induce vomiting. Drink 1 or 2 glasses of water. Never give anything by mouth to a victim who is unconscious or is having convulsions. If vomiting occurs, keep head low so that stomach content doesn’t get into the lungs.

#### Notes to physician
Treat symptomatically. This product is a CNS depressant.

#### General advice
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

#### Flammable properties
Flammable by WHMIS criteria. Extremely flammable liquid and vapor. This material may be ignited by heat, sparks, flames, or other sources of ignition (e.g. static electricity, pilot lights, or mechanical / electrical equipment). Vapors are heavier than air and may spread along floors. Vapors may travel considerable distance to a source of ignition and flash back. Heat may cause the containers to explode. Vapors may form explosive mixtures with air.

#### Extinguishing media
- **Suitable extinguishing media**: Alcohol resistant foam. Water fog. Dry chemical powder. Carbon dioxide (CO2).
- **Unsuitable extinguishing media**: Do not use water jet as an extinguisher, as this will spread the fire.

#### Protection of firefighters
- **Specific hazards arising from the chemical**: Fire may produce irritating, corrosive and/or toxic gases.
- **Protective equipment for firefighters**: Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.
- **Fire fighting equipment/instructions**: In case of fire and/or explosion do not breathe fumes. Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Move containers from fire area if you can do so without risk. Use water spray to cool unopened containers.

#### Explosion data
- **Sensitivity to static discharge**: May be sensitive to static discharge.
- **Sensitivity to mechanical impact**: Not expected to be sensitive to mechanical impact.
- **Hazardous combustion products**: Carbon oxides. Other irritating fumes and smoke.
- **General fire hazards**: Vapors may travel considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors.

### 6. Accidental Release Measures

#### Personal precautions
Wear appropriate protective equipment and clothing during clean-up. Ventilate the contaminated area. Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. See Section 8 of the MSDS for Personal Protective Equipment.

#### Environmental precautions
For large (industrial) releases, prevent spill from entering a waterway.

#### Methods for containment
Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Stop leak if you can do so without risk. Dike the spilled material, where this is possible. Prevent entry into waterways, sewer, basements or confined areas. In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.

#### Methods for cleaning up
Ventilate the contaminated area. Remove sources of ignition. Use only non-sparking tools. Contain and absorb spilled liquid with non-combustible, inert absorbent material (e.g. sand). Local authorities should be advised if significant spillages cannot be contained. For waste disposal, see section 13 of the MSDS.

#### Other information
Clean up in accordance with all applicable regulations.

### 7. Handling and Storage

#### Handling
Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. All equipment used when handling the product must be grounded. Do not use in areas without adequate ventilation. Avoid contact with eyes, skin and clothing. Avoid breathing mist or vapor. Do not taste or swallow. Wear appropriate personal protective equipment. Avoid contact with incompatible materials. Wash hands after handling and before eating.
Storage

Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. The pressure in sealed containers can increase under the influence of heat. Do not handle or store near an open flame, heat or other sources of ignition. This material can accumulate static charge which may cause spark and become an ignition source. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the MSDS). Keep in an area equipped with sprinklers. Use care in handling/storage.

8. Exposure Controls / Personal Protection

Occupational exposure limits

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iso-butyl Acetate (CAS 110-19-0)</td>
<td>TWA</td>
<td>150 ppm</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Material</th>
<th>Type</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iso-butyl Acetate (CAS 110-19-0)</td>
<td>PEL</td>
<td>700 mg/m3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>150 ppm</td>
</tr>
</tbody>
</table>

Biological limit values

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

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. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye/face protection

Chemical goggles and face shield are recommended. Eye wash fountain and emergency showers are recommended.

Skin protection

Wear chemical protective equipment that is specifically recommended by the manufacturer. Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended. Impervious protective gloves. Advice should be sought from glove suppliers.

Respiratory protection

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. A NIOSH/MSHA approved air-purifying respirator with the appropriate chemical cartridges or a positive-pressure, air-supplied respirator may be used to reduce exposure. Advice should be sought from respiratory protection specialists.

Hand protection

Gloves impervious to the material are recommended. Advice should be sought from glove suppliers.

9. Physical & Chemical Properties

Appearance

Clear, colorless liquid with fruity odor.

Physical state

Liquid.

Form

Transparent liquid.

Color

Clear colorless or nearly colorless

Odor

Sweet, ester odor. Fruity.

Odor threshold

1.1 ppm

pH

Not available.

Vapor pressure

13 mm Hg at 20 °C

Vapor density

4

Boiling point

241.7 °F (116.5 °C)

Melting point/Freezing point

-145.84 °F (-98.8 °C)

Solubility (water)

Slightly soluble

Specific gravity

0.87 at 20 °C

Relative density

Not available.

Flash point

62.6 °F (17.0 °C) Closed Cup

Flammability limits in air, upper, % by volume

10.5 %
Flammability limits in air, lower, % by volume
2.4%

Auto-ignition temperature
793.4 °F (423 °C)

Evaporation rate
Not available.

Partition coefficient
1.8

Molecular weight
116.16 g/mol

Molecular formula
C6-H12-O2

Other data
Density
0.87 g/cm3
Solubility (other)
Soluble in all proportions in most organic solvents, such as ethanol, diethyl ether, ketones, other esters.

10. Chemical Stability & Reactivity Information

Reactivity
The product is stable and non-reactive under normal conditions of use, storage and transport.

Chemical stability
Material is stable under normal conditions.

Conditions to avoid
Keep away from heat, sparks and open flame. Keep away from direct sunlight. Keep away from heat. Avoid contact with incompatible materials.

Incompatible materials

Hazardous decomposition products
No hazardous decomposition products are known. The following may be released during a fire: Carbon oxides. Other irritating fumes and smoke.

Possibility of hazardous reactions
Hazardous polymerization does not occur.

11. Toxicological Information

Toxicological data

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iso-butyl Acetate (CAS 110-19-0)</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; 5000 mg/kg</td>
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<tr>
<td>Inhalation</td>
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<td></td>
</tr>
<tr>
<td>LC50</td>
<td>Rat</td>
<td>8000 ppm, 4 hours</td>
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<tr>
<td>Oral</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LD50</td>
<td>Rat</td>
<td>38.01 mg/l, 4 hours</td>
</tr>
</tbody>
</table>

Acute effects
This product is not classified as an acute toxicity hazard. See data above for individual ingredient acute toxicity data.

Sensitization
May cause central nervous system effects.

Chronic effects
Chronic skin contact with low concentrations may cause dermatitis.

Carcinogenicity
This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Skin corrosion/irritation
Causes mild skin irritation.

Serious eye damage/irritation
Direct contact may cause very mild, temporary irritation and redness.

Mutagenicity
Not expected to be mutagenic.

Reproductive effects
Not expected to be hazardous by WHMIS criteria. This product is not expected to cause reproductive or developmental effects.

Teratogenicity
Not expected to be hazardous by WHMIS criteria. This product is not expected to be a teratogen.
Symptoms and target organs
May cause mild eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Direct skin contact may cause slight or mild, transient irritation. Symptoms may include redness, edema, drying, defatting and cracking of the skin. Ingestion of large amounts may cause nausea, vomiting, diarrhea, as well as depression of the central nervous system. May cause central nervous system effects. May cause irritation to the nose, throat and upper respiratory tract. Symptoms may include upper respiratory irritation, coughing, and breathing difficulties. Inhalation of extremely high concentrations may cause dizziness, disorientation, incoordination, narcosis, nausea or narcotic effects.

Epidemiology
No epidemiological data is available for this product.

Synergistic materials
Not available.

12. Ecological Information

Ecotoxicological data

<table>
<thead>
<tr>
<th>Product</th>
<th>Species</th>
<th>Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iso-butyl Acetate (CAS 110-19-0)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Aquatic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Acute</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Algae</td>
<td>EC50</td>
<td>Green Algae (Scenedesmus subspicatus) 370 mg/l, 72 hours</td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Daphnia magna) 25 mg/l, 48 hours</td>
</tr>
<tr>
<td>Fish</td>
<td>LC50</td>
<td>Japanese rice fish (Oryzias latipes) 17 mg/l, 96 hours</td>
</tr>
<tr>
<td><strong>Chronic</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Crustacea</td>
<td>EC50</td>
<td>Water flea (Daphnia magna) 23 mg/l, 21 days</td>
</tr>
</tbody>
</table>

Ecotoxicity
Harmful to aquatic life.

Environmental effects
Harmful to aquatic organisms.

Aquatic toxicity
The product should not be allowed to enter drains, water courses or the soil.

Persistence and degradability
Readily biodegradable.

Partition coefficient
1.78

Mobility in environmental media
High water solubility indicates a high mobility in soil.

13. Disposal Considerations

Disposal instructions
Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Do not allow this material to drain into sewers/water supplies. Dispose in accordance with all applicable regulations.

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
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

TDG

UN number: UN1213
UN proper shipping name: ISOBUTYL ACETATE
Transport hazard class(es)
Class: 3
Subsidiary risk: -
Packing group: II
Environmental hazards: Not available.
Special precautions for user: Read safety instructions, MSDS and emergency procedures before handling.

IATA

UN number: UN1213
UN proper shipping name: ISOBUTYL ACETATE
Transport hazard class(es)
Class: 3

Material name: Isobutyl Acetate
MSDS No. COM257 Version #: 01 Issue date: 06-24-2014
Subsidiary risk: -
Packing group: II
Environmental hazards: No.
ERG Code: 3L
Special precautions for user: Read safety instructions, MSDS and emergency procedures before handling.
Other information:
- Passenger and cargo aircraft: Allowed.
- Cargo aircraft only: Allowed.

IMDG
UN number: UN1213
UN proper shipping name: ISOBUTYL ACETATE
Transport hazard class(es):
- Class: 3
- Subsidiary risk: -
- Packing group: II
- Environmental hazards: No.
- Marine pollutant: No.
- EmS: F-E, S-D
Special precautions for user: Read safety instructions, MSDS and emergency procedures before handling.

IATA; IMDG; TDG

15. Regulatory Information
Canadian regulations: This product has been classified in accordance with the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.
WHMIS status: Controlled
WHMIS classification: B2 - Flammable Liquids

WHMIS labeling

International Inventories

<table>
<thead>
<tr>
<th>Country(s) or region</th>
<th>Inventory name</th>
<th>On inventory (yes/no)*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Inventory of Chemical Substances (AICS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Domestic Substances List (DSL)</td>
<td>Yes</td>
</tr>
<tr>
<td>Canada</td>
<td>Non-Domestic Substances List (NDSL)</td>
<td>No</td>
</tr>
<tr>
<td>China</td>
<td>Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European Inventory of Existing Commercial Chemical Substances (EINECS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Europe</td>
<td>European List of Notified Chemical Substances (ELINCS)</td>
<td>No</td>
</tr>
<tr>
<td>Japan</td>
<td>Inventory of Existing and New Chemical Substances (ENCS)</td>
<td>Yes</td>
</tr>
<tr>
<td>Korea</td>
<td>Existing Chemicals List (ECL)</td>
<td>Yes</td>
</tr>
<tr>
<td>New Zealand</td>
<td>New Zealand Inventory</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Country(s) or region | Inventory name | On inventory (yes/no) |
---|---|---|
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

**HMIS® ratings**
- Health: 2*
- Flammability: 3
- Physical hazard: 0

**NFPA ratings**
- Health: 1
- Flammability: 3
- Instability: 0

**Disclaimer**
Prepared by: ICC The Compliance Center Inc. 1-888-442-9628
http://www.thecompliancecenter.com

Disclaimer
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**Legend to abbreviations and acronyms used in the SDS**
- ACGIH: American Conference of Governmental Industrial Hygienists
- CAS: Chemical Abstract Services
- CEPA: Canadian Environmental Protection Act
- CPR: Controlled Products Regulation
- DSL: Domestic Substance List
- HMIS: Hazardous Materials Identification System
- IARC: International Agency for Research on Cancer
- IATA: International Air Transport Association
- IMDG: International Maritime Dangerous Goods
- IUCLID: International Uniform Chemical Information Database
- LC: Lethal Concentration
- LD: Lethal Dose
- NIOSH: National Institute of Occupational Safety and Health
- NTP: National Toxicology Program
- OECD: Organisation for Economic Co-operation and Development
- TDG: Canadian Transportation of Dangerous Goods Act & Regulations
- TWA: Time Weighted Average
- STEL: Short Term Exposure Limit

**References**
Canadian Centre for Occupational Health and Safety, CCInfoWeb Databases, 2014 (Chempendium, RTECs, HSDB, IN Chem)
Material Safety Data Sheet from manufacturer.