


Number: 015

Section 1. Product and Company Identification

Product name: Isobutyl acetate
Synonyms: -
Recommended use and Restrictions on use: Acrylic Resin Monomer.
Manufacturer, Importer, or Supplier: Shiny Chemical Industrial Co., Ltd. Address: No.5, Yeong Gong 1 st Rd, Yeong An Dist., Kaohsiung 82841, Taiwan, R.O.C. Telephone: +886-7-8619171 ext. 711~714
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Section 2. Hazards Identification

Classification: 1. Flammable liquid, categories 2 2. Skin corrosion/irritation, categories 2 3. Specific target organ toxicity following single exposure, categories 3
Label elements:  Hazard pictograms: Flame, Exclamation mark Signal word: Danger Hazard Statements: 1. Highly Flammable liquid and vapour. 2. Causes eye irritation. 3. May cause respiratory irritation. 4. May cause drowsiness or dizziness. Precautionary statements: 1. Keep containers in a well-ventilated place. 2. Keep away from sources of ignition - No Smoking. 3. Avoid contact with eyes.
Other Hazards: -

Section 3. Composition/Information on Ingredients

Pure substance

Chemical Name: Isobutyl acetate
Synonyms: 2-Methyl-1-propyl acetate, Acetic acid, isobutyl ester,

Acetic acid, 2-methylpropyl ester, Beta-Methylpropyl ethanoate, 2-Methylpropyl acetate.

CAS NO. : 110-19-0

Weight: 100%

Section 4. First Aid Procedures

Description of first aid measures:

• Inhalation:

1. Administered oxygen if patient is unconscious.
2. Remove patient to fresh air, or remove the pollutant away at once.
3. If patient has stopped breathing administrate the ARTF respiratory. If patient is in cardiac arrest administrate CPR, continue life supporting measures until medical assistant arrive.
4. Get medical attention immediately.

• Skin contact:

1. If this product contacts the skin, flush warm water for at last 20 minutes.
2. If this product penetrates the clothing, promptly remove the clothing and wash the skin with soap & water.
3. If irritation persists after washing, get medical attention.
4. Launder clothing and accessory before reuse.

• Eye contact:

1. If this product contacts the eyes, lifting the lower and upper lids and flush eyes continuously with warm water for at last 20 minutes.
2. Avoid contaminating to another eye during eye washing.
3. Get medical attention immediately.

• Ingestion:

1. Not allowed to feed the any food or water if patience is unconscious.
2. Rinse the patience's month with water and do not induce vomiting.
3. Feed the patient 240 ~ 300 mL of water.
4. Provide the water for patient's month rinsing after patient vomited.
5. If patient has stopped breathing administrate the ARTF respiratory. If patient is in cardiac arrest administrate CPR, continue life supporting measures until medical assistant arrive.
6. Get medical attention immediately.

The most Important Symptoms and Hazardous Effects: Can cause eye or skin irritation, and cause nervous system injury after overexposure.

Protection for emergency personnel: The first aid personnel should be wear the level C protective suit before execute the duty.

Notes to Physicians: Gastric lavage and charcoal may using for treatment after this

product has been swallowed.

Section 5. Firefighting Measures

Suitable extinguishing media: Carbon dioxide, dry chemical powder or firefighting foam. Do not use water.

Special hazards during firefighting:

1. Water mist may not extinguished the fire, but it can be cooling the container and dilute the pollutant concentration in the field.
2. Vapors may travel considerable distance to source of ignition and flash back.
3. The hermetically sealed container within this product might be explosion during the fire heating.

Firefighting procedures:

1. Evacuate area and extinguish the fire from the safety area.
2. Stay in the safety area and avoid the hot steam and poison gas.
3. Stop the leakage before firefighting. Let the fire burns if the leakage could not be stop.
4. Isolate the other container from the fire and protect the members.
5. Removed the container and make sure the member without risk concern.
6. Cooling the fire tank or fire container by water.
7. The fire brigade should be trained for huge tank fire.
8. Use the water spray or water mist for container leakage, and protect the leakage stopper from the danger by water spray.
9. Water sprinkler does not work.
10. Use the auto-swing fire monitor for huge fire.
11. Let the fire burn the product out.
12. Keep whole member away from the tank.
13. Evacuate surrounding areas. And escape from the fire area while the PSV had noise or tank turns red.
14. Keep unnecessary and unprotected personnel from entering.

Protective equipment for firefighters: Use government approved SCBA and full protective equipment.

Section 6. Accidental Release Measures

Personal precautions:

1. Keep unnecessary and unprotected personnel from entering.
2. Make sure that decontamination people had been trained.
3. Put on appropriate personal protective equipment.

Environmental precautions:

1. Ventilate area. Wear appropriate respirator when ventilation is inadequate.

2. Eliminate all ignition sources.
3. Inform the relevant authorities involve the Council of Labor Affairs and Environmental Protection Administration.

Methods for cleaning up:

1. No action shall be taken involving any personal risk or without suitable training.
2. Do not allow material to enter sewers or ground.
3. Stop or control the spill, if this can be done without undue risk.
4. Absorb on vermiculite or similar material.
5. Spill Release (small): Absorb on vermiculite or similar material, isolate discharged material for proper disposal, then wash the contamination area by water.
6. Spill Release (large): Call the fire brigade and emergency response center for help.

Section 7. Handling and Storage

Handling:

1. Use approval container with NO SMOKING symbol for storing.
2. Grounding or bonding of containers is recommended before material transfer.
3. Activities such as sanding, burning off etc. of paint films may generate dust and/or fumes hazardous to the skin and lungs.
4. Work in well ventilated areas.
5. Use local exhaust ventilation and personal skin and respiratory protective equipment as appropriate.
6. Container should have the clear label and keep tight.

Storage:

1. Store in cool, dry and well-ventilated place.
2. Store only with compatible chemicals.
3. Make sure that ventilation system and electrical equipment without the spark occur in the store place.
4. Contain in the appropriated container with clear label.
5. Keep tightly closed.
6. Use the appropriate container, tank, or building for storage.
7. Storage area control and manager.
8. Inspection periodically.
9. Storage area should have extinguisher.
10. Followed the regulation for store.
11. The tank should be set on the ground with dike around.
12. If small amount for store, use the explosion proof refrigerator.

Section 8. Exposure controls

Engineering controls:			
1. It is recommended that work be done in an adequately ventilated area (i.e., ventilation sufficient to maintain concentrations below one half of the PEL and other relevant standards).			
2. Isolated the workplace is recommended when local exhaust ventilation is not sufficient to control airborne contamination.			
Control parameters			
TWA	STEL	CEILING	BEIs
150 ppm	187.5 ppm	-	-
Personal protective equipment:			
• Respiratory protection:			
1. The concentration below 1,300 ppm: Can use the mask with canister of organic solvent, the mask with air supplied hose, or circuit self-contained breathing apparatus.			
2. Unknown condition: Can use the mask with air supplied hose, or circuit self-contained breathing apparatus.			
3. Escaping: Can use the mask with canister of organic solvent or circuit self-contained breathing apparatus.			
• Hand protection: Protection gloves by 4H.			
• Eye protection: Mask and glasses for chemical resistant.			
• Skin and physical protection: Protection suit and boots for chemical resistant.			
Hygiene measures:			
1. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.			
2. Appropriate techniques should be used to remove potentially contaminated clothing.			
3. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.			
4. Keep the workplace clean.			

Section 9. Physical and Chemical Properties

Appearance: Clear	Odor: fruit taste
Odor threshold:	Melting point: -98.9 ~ -98.6°C
1. 0.36 ~ 3.6 ppm (detection)	
2. 0.51 ~ 7.2 ppm (perceive)	Boiling point/Boiling range: 117.2°C
pH: 7	
Flammability (solid, gas): -	Flash point: 18°C

Decomposition temperature: -	Test method: close cup
Auto-ignition temperature: 421°C	Explosion limits: 1.3 ~ 10.5%
Vapor pressure: 13 mmHg (20°C)	Vapor density: 4 (air=1)
Density: 0.871	Solubility: 0.67 g/100 g (water)
Partition coefficient (n-octanol/water, log K _{ow}): 1.78	Volatility rate: 1.5 (Butyl acetate=1)

Section 10. Stability and Reactivity

Chemical stability: The product is stable without water.
Possibility of hazardous reactions: 1. Strong oxidizing agents: Fire and explosion. 2. Strong Bases: Hydrolysis. 3. Strong acid: Hydrolysis, fire and explosion. 4. Plastic product will be corroded.
Conditions to avoid: Avoid contact with heat, open flame, sparks, or ignition sources.
Materials to avoid: Strong Bases, strong acid, strong oxidizing agents and reducing agents.
Hazardous decomposition products: Acetic acid and isobutyl alcohol.

Section 11. Toxicological Information

Exposure Route: Skin contact, Inhalation, Ingestion and eye contact.
Symptoms: Excessive overexposure may cause giddiness, Dizziness, Headache, Nausea and in extreme cases, Unconsciousness and respiratory depression.
Acute toxicity: • Skin: 1. Moderately irritating with possible redness and discomfort. 2. Prolonged contact may cause burns with redness and pain. 3. Contains a component which can be absorbed through the skin in harmful amounts. • Inhalation: 1. Moderately irritating to nose, throat or breathing passages. 2. May cause unconsciousness by depressing the central nervous system after prolonged exposure to high concentrations. 3. May increase risk for sudden death from irregular heart rhythms caused by stressful conditions that increase the levels of adrenalin in the blood. • Ingestion: 1. May cause irritating of the mouth, digestive tract, stomach, and digestive system. 2. Ingestion of small amounts of the hydrocarbon in this product may be

accidentally aspirated into the lungs and cause a chemical pneumonia that can be life-threatening.

3. No ingestion exposure expected with normal occupational use.

• Eye Contact: Vapors may cause eye irritation with redness and minor discomfort of the eye.

• LD₅₀ (animal test, entry): 13,400 mg/kg (Rat, Acute oral toxicity).

• LC₅₀ (animal test, entry): -

• 500 mg/24 hour(s) (rabbit, skin): Cause slight irritating.

• 100 mg/24 hour(s) (rabbit, eyes): Cause middle irritating.

Chronic / Long-term toxicity: May cause dry skin by dissolving skin oils.

Section 12. Ecological Information

Ecological toxicity:

1. LC₅₀ (fish): -

2. EC₅₀ (aquatic invertebrates): -

3. Bioconcentration factor (BCF): 2.1

Persistence and degradability:

1. BOD₅ and BOD₂₀ are 60% and 80% respectively.

2. Might be decomposition in the water.

3. The product's half-life among 20.6 hours if it released in the air and reacted with hydrogen free radical.

• Half-life (Air): 11.5 hours

• Half-life (Water surface): 47 ~ 564 hours

• Half-life (Groundwater): -

• Half-life (Soil): -

Bioaccumulative potential: May not cause Bio-accumulative. This product can be metabolic by the animal examination.

Mobility in soil: This product can be biodegradable in the soil.

Other adverse effects: No known significant effects or critical hazards.

Section 13. Disposal Considerations

Waste disposal:

1. Discharge, treatment or disposal is subject to national, state, or local laws.

2. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements.

3. The generation of waste should be avoided or minimized wherever possible. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor.

Section 14. Transport Information

United Nations Number (UN No.): 1213
UN Proper Shipping Name: Isobutyl acetate
Transport Hazard classes: 3
Packaging Group: II
Marine pollutant (Yes/No): No
Specific Transport Measures and Precautionary Conditions: -

Section 15. Regulatory Information

Applicable Regulations: 1. Occupational Safety and Health Act. 2. Regulations for the Labeling and Hazard Communication of Hazardous Chemicals. 3. Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste. 4. Standards of Permissible Exposure Limits at Job Site. 5. Public Hazardous Substances & Flammable Pressurized Gases Establishment Standards & Safety Control Regulations. 6. Regulations Governing Designating and Handling of Priority Management Chemicals.
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Section 16. Other Information

References	1. CHEMINFO database, 2016. 2. ChemWatch database, 2016 3. European Chemicals Agency (ECHA) 4. National Institute of Technology and Evaluation.
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Notes	The symbol " - " in this sheet indicates no available information; the symbol " / " indicates the information is not applicable to the substance.