



Kimya Resin Arak

Chemical Industrial Co.

MATERIAL SAFETY DATA SHEET

Iso Butyl acetate

Tel: (+98) 86-3422-4515
(Company)

Tel: (+98) 86-3823-2049
(Factory)

1- Identification

Product Name	i-Butyl acetate
CAS No	110-19-0
Synonyms	2-Methylpropyl acetate, beta.-Methylpropyl acetate, beta.-Methylpropyl ethanoate, Acetic acid, 2-Methylpropyl ester

Details of the supplier of the safety data sheet

Company

Kimya Resin Arak Company

Tel: (+98) 86-3422-4515 (Company)

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2- Hazard (s) identification



Precautionary Statements

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.

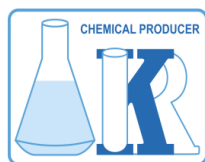
Take action to prevent static discharges.

Take precautionary measures against static discharge

Use only outdoors or in a well-ventilated area.

Avoid breathing mist or vapours

Wear protective gloves/protective clothing/eye protection/face protection.



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Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Fire

In case of fire: Use CO₂, dry chemical, or foam for extinction.

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.

Hazards not otherwise classified (HNOC)

Repeated exposure may cause skin dryness or cracking.

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- First-aid measures

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.

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.

Skin Contact

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

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.

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.



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Most important symptoms and effects, acute and delayed May cause drowsiness and dizziness. Headache. Nausea, vomiting. Direct contact with eyes may cause temporary irritation.

Notes to Physician Treat symptomatically

4- Fire-fighting measures

Suitable Extinguishing Media Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam. Water mist maybe used to cool closed containers.

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

Flash Point 18°C/62°F

Method - No information available

Autoignition Temperature 421°C/790°F

Explosion Limits

Upper Not data available

Lower Not data available

Oxidizing Properties Not oxidizing

Sensitivity to Mechanical Impact Not information available

Sensitivity to Static Discharge Not information available

Specific Hazards Arising from the Chemical






Fire may produce irritating, corrosive and/or toxic gases.

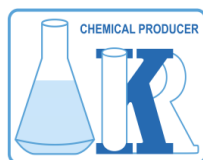
Hazardous Combustion Products

Carbon monoxide (CO). Carbon dioxide (CO₂).

Protective Equipment and Precautions for Firefighters

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.

Diamond	Hazard	Value	Description
	 Health	1	Material that, under emergency condition, can cause temporary incapacitation or residual injury.
	 Flammability	3	Liquids and solid that can be ignited under almost all ambient temperature conditions, Materials produce hazardous atmospheres with air under almost all ambient temperatures or, though unaffected by ambient temperatures, are readily ignited under almost all conditions.
	 Instability	0	Materials that themselves are normally stable, even under fire conditions.
	 Special		



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5- Ecological Information

Isobutyl acetate's production and use as a solvent for nitrocellulose; in thinners, sealants, and topcoat lacquers; in perfumery; and as a flavoring agent may result in its release to the environment through various waste streams. Isobutyl acetate has been identified in apples, nectarines and bananas, and may be released into the environment as a natural plant volatile. If released to air, a vapor pressure of 17.8 mm Hg at 25 °C indicates isobutyl acetate will exist solely as a vapor in the atmosphere. Vapor-phase isobutyl acetate will be degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 2.9 days. Isobutyl acetate does not contain chromophores that absorb at wavelengths >290 nm and therefore is not expected to be susceptible to direct photolysis by sunlight. If released to soil, isobutyl acetate is expected to have very high mobility based upon an estimated Koc of 16. Volatilization from moist soil surfaces is expected to be an important fate process based upon a Henry's Law constant of 4.54×10^{-4} atm-cu m/mole. Isobutyl acetate may volatilize from dry soil surfaces based upon its vapor pressure. Based on 5- and 20-day theoretical BODs of 60% and 81%, respectively, in fresh water dilution tests, isobutyl acetate is expected to biodegrade in soil and water environments. If released into water, isobutyl acetate is not expected to adsorb to suspended solids and sediment based upon the estimated Koc. Volatilization from water surfaces is expected to be an important fate process based upon this compound's Henry's Law constant. Estimated volatilization half-lives for a model river and model lake are 5.2 hours and 4.9 days, respectively.

6- Handling and Storage



Handling

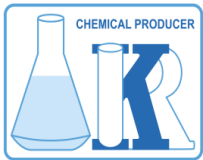
Wear protective gloves and eye/face protection. Use only in well-ventilated areas. Avoid breathing vapour or mist. Avoid contact with skin, eyes and clothing. Keep container tightly closed. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Keep away from flames and hot surfaces. - No smoking. Use only non-sparking tools. Take precautionary measures against static discharges. Ground all equipment during handling. Keep container tightly closed.

Storage

Keep container tightly closed. Store in cool/well-ventilated place. Store locked up. Keep cool. Storage area should be clearly identified, clear of obstruction and accessible only to trained and authorized personnel. Inspect periodically for damage or leaks. No smoking. Empty containers may contain hazardous residues. After prolonged storage, may release explosive peroxides in the presence of air. Direct sunlight or heat may accelerate the release of peroxides.

Incompatible materials

Strong oxidizers (e.g. Chlorine, Peroxides, etc.); Strong acids ;Potassium tert-butoxide Attacks some elastomers, rubber, plastic and coatings.



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7- Physical and chemical properties

Molecular Formula: $C_6H_{12}O_2$ / $CH_3COOCH_2CH(CH_3)_2$

Synonyms: 2-Methylpropyl acetate, beta.-Methylpropyl acetate, beta.-Methylpropyl ethanoate, Acetic acid, 2-methylpropyl ester

CAS Number: 110-19-0

Molecular Mass: $116.16 \text{ g. mol}^{-1}$

Exact Mass: $116.083 \text{ g. mol}^{-1}$

Flashpoint: 62°F/18°C

Boiling Point: 243.1°F at 760 mmHg/116.5°C

Melting Point: -142.8 °F / -98.8 °C

Vapour Pressure: 13 mm Hg at 68 ° F

Water Solubility: 0.67 g/100mL (20 °C)

Density: 0.8712 g cm - 3

Viscosity: 0.676 mPa.s at 25°C

Autoignition Temperature: 421°C / 790°F

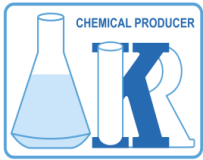
Vapor Density: 4 (Relative to Air)

Odor: Fruit-like odor

Color/ Form: Colorless, volatile liquid

8- Stability and reactivity

Reactive Hazard	The product is stable and non-reactive under normal conditions of use, storage and transport.
Stability	Material is stable under normal conditions.
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	Carbon monoxide (CO), Carbon dioxide (CO ₂)



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Hazardous Polymerization

Hazardous polymerization does not occur.

Hazardous Reactions

None under normal processing.

9- Toxicological information

Acute Toxicity

Product Information

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
i-Butyl acetate	LD50 = 13400 mg/kg (Rat)	LD50 > 17400 mg/kg (Rabbit)	LC50 = 8000ppm (Rat) 4 h

Toxicologically Synergistic Products

No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation

May cause drowsiness and dizziness. Headache. Nausea, vomiting.
Prolonged inhalation may be harmful.

Sensitization

No information available

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as acarcinogen.

Mutagenic Effects

No information available

Reproductive Effects

No information available

Teratogenicity

Not information available

Aspiration hazard

No information available

Symptoms / effects, both acute and delayed

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Endocrine Disruptor Information

No information available.

Other Adverse Effects

The toxicological properties have not been fully investigated.

10- Disposal considerations

Waste Disposal Methods

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.



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11- Transport information

Fire or Explosion

HIGHLY FLAMMABLE: Will be easily ignited by heat, sparks or flames. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Most vapors are heavier than air. They will spread along ground and collect in low or confined areas (sewers, basements, tanks). Vapor explosion hazard indoors, outdoors or in sewers. Those substances designated with a (P) may polymerize explosively when heated or involved in a fire. Runoff to sewer may create fire or explosion hazard. Containers may explode when heated. Many liquids are lighter than water.

Health

May cause toxic effects if inhaled or absorbed through skin. Inhalation or contact with material may irritate or burn skin and eyes. Fire will produce irritating, corrosive and/or toxic gases. Vapors may cause dizziness or suffocation. Runoff from fire control or dilution water may cause pollution. /Butyl acetates/

Public Safety

CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover. As an immediate precautionary measure, isolate spill or leak area for at least 50 meters (150feet) in all directions. Keep unauthorized personnel away. Stay upwind, uphill and/or upstream. Ventilate closed spaces before entering. /Butyl acetates/.

Protective Clothing

Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection. /Butyl acetates/.

DOT

UN Number: 1213

Class: 3

Packing group: II



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12- Other information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text. This safety datasheet only contains information relating to safety and does not replace any product information or product specification.

Abbreviations and acronyms:

DOT: US Department of Transportation

EC: Effect concentration

EWC: European Waste Catalogu

GHS: Globally Harmonized System of Classification and Labelling of Chemicals.

LC: Lethal Concentration,... %

LD: Lethal Dose, ...%

NOAEL: no observable adverse effect leve

NOEL/NOEC: No Observed-effect level/concentration

OECD: Organisation for Economic Co-operation and Developme

UN: Union nations

VOC: Volatile organic compound

End of MSDS