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# 1. Identification

Product identifier used on the label

# iso-Butyl Acrylate (IBA)

# Recommended use of the chemical and restriction on use Recommended use\*: Monomer.

Recommended use<sup>\*</sup>: Monomer.

\* The "Recommended use" identified for this product is provided solely to comply with a US Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

# Details of the supplier of the safety data sheet

Company: BASF CORPORATION 100 Park Avenue Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

# **Emergency telephone number**

CHEMTREC: 1-800-424-9300 BASF HOTLINE: 1-800-832-HELP (4357)

## Other means of identification

Molecular formula: Chemical family: Synonyms:

C7H1202 organic acids, esters Isobutyl ester of acrylic acid

# 2. Hazards Identification

## According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

# **Classification of the product**

Flam. Liq.	3	Flammable liquids
Acute Tox.	4 (Inhalation - vapour)	Acute toxicity
Acute Tox.	4 (dermal)	Acute toxicity
Skin Corr./Irrit.	2	Skin corrosion/irritation
Skin Sens.	1B	Skin sensitization
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure

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Aquatic Acute	2 Hazardous to the aquatic environment - acu		
Aquatic Chronic	3 Hazardous to the aquatic environment - chro		
Label elements			
Pictogram:			
$\checkmark$ $\checkmark$			
Signal Word: Warning			
Hazard Statement:			
H226	Flammable liquid and vapour.		
H315	Causes skin irritation.		
H312	Harmful in contact with skin.		
H332	Harmful if inhaled.		
H317	May cause an allergic skin reaction.		
H335	May cause respiratory irritation.		
H412	Harmful to aquatic life with long lasting effects.		
H401	Toxic to aquatic life.		
Precautionary Stateme	nts (Prevention):		
P280	Wear protective gloves and eye/face protection.		
P271	Use only outdoors or in a well-ventilated area.		
P260	Do not breathe mist or vapour.		
P261	Avoid breathing vapours.		
P210	Keep away from heat, hot surfaces, sparks, open flames and other		
F210			
D070	ignition sources. No smoking.		
P273	Avoid release to the environment.		
P243	Take precautionary measures against static discharge.		
P241	Use explosion-proof electrical/ventilating/lighting/equipment.		
P272	Contaminated work clothing should not be allowed out of the workplace.		
P264	Wash with plenty of water and soap thoroughly after handling.		
P242	Use only non-sparking tools.		
P240	Ground/bond container and receiving equipment.		
Precautionary Stateme			
P312	Call a POISON CENTER or doctor/physician if you feel unwell.		
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.		
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.		
P333 + P311	Rinse skin with water/shower. If skin irritation or rash occurs: Call a POISON CENTER or doctor/physician.		
P361 + P364	doctor/physician. Remove/Take off immediately all contaminated clothing and wash before reuse.		
P332 + P313	If skin irritation occurs: Get medical advice/attention.		
P370 + P378	In case of fire: Use to extinguish.		
Precautionary Stateme	nts (Storage):		
P233	Keep container tightly closed.		
P403 + P235	Store in a well-ventilated place. Keep cool.		
P405	Store locked up.		

Precautionary Statements (Disposal):

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P501	Dispose of contents/container to hazardous or special waste collection point.

## Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture. See section 12 - Results of PBT and vPvB assessment.

#### According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

#### **Emergency overview**

DANGER: FLAMMABLE LIQUID. Skin Irritant Skin sensitization HARMFUL IF INHALED. TOXIC IF ABSORBED THROUGH SKIN. CAN CAUSE LIVER DAMAGE. Use with local exhaust ventilation. Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. Wear NIOSH-certified chemical goggles. Eye wash fountains and safety showers must be easily accessible. Wear chemical resistant protective gloves. Keep away from heat, sparks, and open flames. Ground conductive equipment properly to prevent electrostatic discharge.

# 3. Composition / Information on Ingredients

#### According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

CAS Number	Content (W/W)	Chemical name
106-63-8	99.0 - 100.0 %	isobutylacrylate

# According to Regulation 1994 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

<u>CAS Number</u> 106-63-8 150-76-5

Content	VV/VV)
99.0	%
>= 10.0 - <	<= 20.0
PPM	1

Chemical name isobutylacrylate MEHQ

# 4. First-Aid Measures

#### **Description of first aid measures**

#### General advice:

Remove contaminated clothing.

If inhaled:

Keep patient calm, remove to fresh air, seek medical attention.

## If on skin:

Wash thoroughly with soap and water.

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#### If in eyes:

Wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

#### If swallowed:

Immediately rinse mouth and then drink plenty of water, do not induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

## Most important symptoms and effects, both acute and delayed

Symptoms: Overexposure may cause:, CNS stimulation, difficulty breathing, collapse, salivation Hazards: No hazard is expected under intended use and appropriate handling.

#### Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:

Treat according to symptoms (decontamination, vital functions), no known specific antidote.

# 5. Fire-Fighting Measures

#### **Extinguishing media**

Suitable extinguishing media: carbon dioxide, dry powder, water spray, foam

Unsuitable extinguishing media for safety reasons: water jet

#### Special hazards arising from the substance or mixture

Hazards during fire-fighting: Risk of violent self-polymerization if overheated in a container.

#### Advice for fire-fighters

Protective equipment for fire-fighting: Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

#### Further information:

Vapours are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition. Fight fire from maximum distance.

#### Impact Sensitivity: Remarks:

Based on the chemical structure there is no shock-sensitivity.

# 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Take appropriate protective measures.

Ensure adequate ventilation. Use personal protective clothing. Breathing protection required.

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#### **Environmental precautions**

Substance/product is RCRA hazardous due to its properties.

#### Methods and material for containment and cleaning up

Spills should be contained, solidified, and placed in suitable containers for disposal.

## 7. Handling and Storage

#### Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice. The substance/ product may be handled only by appropriately trained personnel. Facility parts must be checked for polymer residues and cleaned on regular basis in order to avoid hazardous reactions.

Protection against fire and explosion:

Heated containers should be cooled to prevent polymerization. If exposed to fire, keep containers cool by spraying with water. Emergency cooling must be provided for the eventuality of a fire in the vicinity. Sealed containers should be protected against heat as this results in pressure build-up. Avoid influence of heat.

#### Conditions for safe storage, including any incompatibilities

No applicable information available.

Further information on storage conditions: Risk of polymerization. Protect against heat. Protect from direct sunlight. Protect contents from the effects of light. Avoid UV-light and other radiation with high energy. Protect against contamination.

Even if the product is stored and handled as prescribed/indicated it should be used up within the indicated duration of storage.

Risk of polymerization. Protect from direct sunlight.

Storage stability:

This product should be processed as soon as possible. Ensure adequate inhibitor and dissolved oxygen level. The product is stabilized, the shelf life should be noted.

## 8. Exposure Controls/Personal Protection

#### Advice on system design:

Provide local exhaust ventilation to maintain recommended P.E.L.

#### Personal protective equipment

#### **Respiratory protection:**

Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator as needed. At concentrations < 250 ppm, use a chemical cartridge respirator. At concentrations > 250 ppm, use an air-supplied or self-contained breathing apparatus.

## Hand protection:

Chemical resistant protective gloves

#### Eye protection:

Tightly fitting safety goggles (chemical goggles).

## Body protection:

light protective clothing

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## General safety and hygiene measures:

Avoid contact with the skin, eyes and clothing. Avoid inhalation of vapour. Wearing of closed work clothing is required additionally to the stated personal protection equipment. Wash soiled clothing immediately.

# 9. Physical and Chemical Properties

Form: Odour:	liquid ester-like	
Odour threshold:	ester-like	not determined
Colour:	colourless	
pH value:		of very low solubility
Melting point:	-61 °C	Literature data.
Boiling point:	137.8 °C	( 1,013 hPa)
Sublimation point:		No applicable information available.
Flash point:	30 °C	(open cup) Literature data.
Flammability:	Flammable.	
Lower explosion limit:		For liquids not relevant for classification
		and labelling. The lower explosion point
		may be 5 - 15 °C below the flash point.
Upper explosion limit:		For liquids not relevant for classification
	250.00	and labelling.
Autoignition:	350 °C	Literature data.
Vapour pressure:	9.6 hPa 8.12 hPa	( 25 °C) ( 34.3 °C)
	35.3 hPa	( 48.7 °C)
Density:	0.8896 g/cm3	( 20 °C) Literature data.
Relative density:	0.8896	(20 °C) Literature data.
Vapour density:	4.4	
Partitioning coefficient n-	2.38	(25 °C) (measured)
octanol/water (log Pow):		(), (
Self-ignition		Based on its structural properties the
temperature:		product is not classified as self-igniting.
Thermal decomposition:	No decomposition if stored and handled as	
	prescribed/indicated.	
Viscosity, dynamic:	0.822 mPa.s	(21.1 °C) Literature data.
Viscosity, kinematic:		not determined
Solubility in water:	1.8 g/l	( 25 °C)
Solubility (quantitative):		No applicable information available.
Solubility (qualitative):	miscible	
	solvent(s): organic solvents,	
Molar mass:	128.17 g/mol	Value con he opprovimented from Line de
Evaporation rate:		Value can be approximated from Henry's
		Law Constant or vapor pressure.

# 10. Stability and Reactivity

#### Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

Corrosion to metals: No corrosive effect on metal.

Oxidizing properties: Based on its structural properties the product is not classified as oxidizing.

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Formation of Remarks: flammable gases:

Forms no flammable gases in the presence of water.

# Chemical stability

The product is stable if stored and handled as prescribed/indicated.

# Possibility of hazardous reactions

Explosion and fire hazard exists under confined conditions. Ignitable air mixtures can form when the product is heated above the flash point and/or when sprayed or atomized. Formation of explosive gas/air mixtures.

Risk of spontaneous and violent self-polymerization if inhibitor is lost or product is exposed to excessive heat. Risk of spontaneous polymerization when heated or in the presence of UV radiation. With unstabilised product, spontaneous polymerisation may occur e.g. through ambient heat. Polymerization coupled with heat formation. Polymerization produces gases which may burst closed or confined containers. Reactions may cause ignition.

Risk of spontaneous polymerization by oxygen depletion of the liquid phase.

Radical formation can cause exothermic polymerization. Reacts with peroxides and other radical components. Risk of spontaneous polymerization in the presence of starters for radical chain reactions (e.g. peroxides). Reacts with nitric acid. Polymerizes explosively in contact with strong oxidizing agents. Risk of spontaneous polymerization in the presence of oxidizing agents. Hazardous reactions in presence of mentioned substances to avoid.

The product is stabilized against spontaneous polymerization prior to despatch. The product is stable if stored and handled as prescribed/indicated.

## **Conditions to avoid**

Avoid heat. Avoid oxygen content above the product of less than 5 %. Do not blanket with nitrogen. Avoid UV-light and other radiation with high energy. Avoid direct sunlight. Avoid prolonged storage. Avoid inhibitor loss. Avoid excessive temperatures.

# Incompatible materials

polyvinylchloride, radical formers, free radical initiators, peroxides, mercaptans, nitro-compounds, perborates, azides, ether, ketones, aldehydes, amines, nitrates, nitrites, oxidizing agents, reducing agents, strong bases, acid anhydrides, acid chlorides, concentrated mineral acids Inert gas

# Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: No hazardous decomposition products if stored and handled as prescribed/indicated.

Thermal decomposition: No decomposition if stored and handled as prescribed/indicated.

# **11. Toxicological information**

# Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

# **Acute Toxicity/Effects**

Acute toxicity

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Assessment of acute toxicity: Of low toxicity after single ingestion. Of moderate toxicity after short-term inhalation. Of moderate toxicity after short-term skin contact.

<u>Oral</u> Type of value: LD50 Species: rat (male/female) Value: approx. 4,895 mg/kg (BASF-Test)

Inhalation Type of value: LC50 Species: rat Value: 10.5 mg/l Exposure time: 4 h

Dermal Type of value: LD50 Species: rabbit (male) Value: approx. 793 mg/kg

Type of value: LD50 Species: rabbit (male) Value: approx. 4,000 mg/kg

Assessment other acute effects Assessment of STOT single: Causes temporary irritation of the respiratory tract.

<u>Irritation / corrosion</u> Assessment of irritating effects: Skin contact causes irritation. Not irritating to the eyes.

<u>Skin</u> Species: rabbit Result: Irritant. Method: BASF-Test

Eye Species: rabbit Result: non-irritant Method: BASF-Test

#### Sensitization

Assessment of sensitization: Sensitization after skin contact possible. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Mouse Local Lymph Node Assay (LLNA) Species: mouse Result: sensitizing The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Aspiration Hazard not applicable

# **Chronic Toxicity/Effects**

Repeated dose toxicity

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Assessment of repeated dose toxicity: After repeated exposure the prominent effect is local irritation. The substance may cause damage to the olfactory epithelium after repeated inhalation. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

#### Genetic toxicity

Assessment of mutagenicity: The substance was not mutagenic in bacteria. No mutagenic effect was found in various tests with mammalian cell culture and mammals. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

## Carcinogenicity

Assessment of carcinogenicity: In long-term animal studies in which the substance was given by inhalation, a carcinogenic effect was not observed. The substance showed no carcinogenic acitivity in animals after chronic administration to the skin. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

#### Reproductive toxicity

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

#### Teratogenicity

Assessment of teratogenicity: Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Other Information development of pulmonary edema

# Symptoms of Exposure

Overexposure may cause:, CNS stimulation, difficulty breathing, collapse, salivation

## Medical conditions aggravated by overexposure

Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product. See MSDS section 11 - Toxicological information.

# **12. Ecological Information**

# Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Acutely toxic for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish

LC50 (96 h) 2.1 mg/l, Pimephales promelas (Flow through.) The statement of the toxic effect relates to the analytically determined concentration. Literature data.

#### Aquatic invertebrates

EC50 (48 h) 8.2 mg/l, Daphnia magna (OECD Guideline 202, part 1, Flow through.)

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The statement of the toxic effect relates to the analytically determined concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

#### Aquatic plants

EC50 (72 h) 5.28 mg/l (growth rate), Desmodesmus subspicatus (OECD Guideline 201, static) The statement of the toxic effect relates to the analytically determined concentration.

#### Chronic toxicity to aquatic invertebrates

No observed effect concentration (21 d) 0.136 mg/l, Daphnia magna (OECD Guideline 211, semistatic)

The statement of the toxic effect relates to the analytically determined concentration. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

<u>Assessment of terrestrial toxicity</u> Study not necessary due to exposure considerations.

#### Soil living organisms

Toxicity to soil dwelling organisms:

See user defined text. (28 d) > 1,000 mg/kg, soil dwelling microorganisms (OECD 217, See user defined text.)

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition. The details of the toxic effect relate to the nominal concentration.

#### Microorganisms/Effect on activated sludge

Toxicity to microorganisms OECD Guideline 209 aquatic activated sludge, domestic/EC20 (0.5 h): > 1,000 mg/l Nominal concentration.

# Persistence and degradability

Assessment biodegradation and elimination (H2O) Readily biodegradable (according to OECD criteria).

#### Elimination information

80 - 90 % TIC of the ThIC (28 d) (ISO 14593) (aerobic, activated sludge, domestic)

<u>Assessment of stability in water</u> In contact with water the substance will hydrolyse slowly.

Information on Stability in Water (Hydrolysis) t<sub>1/2</sub> 16.5 a (25 °C, pH value 7), (calculated, pH7)

#### **Bioaccumulative potential**

<u>Assessment bioaccumulation potential</u> Significant accumulation in organisms is not to be expected.

<u>Bioaccumulation potential</u> Bioconcentration factor: 17.3 (calculated)

Mobility in soil

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<u>Assessment transport between environmental compartments</u> The substance will slowly evaporate into the atmosphere from the water surface. Adsorption to solid soil phase is not expected.

# Additional information

Other ecotoxicological advice: Do not release untreated into natural waters.

# **13. Disposal considerations**

#### Waste disposal of substance:

Incinerate or dispose of in a RCRA-licensed facility. Do not discharge into drains/surface waters/groundwater.

#### Container disposal:

Empty containers with less than 1 inch of residue may be landfilled at a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers. If containers are not empty, they must be disposed of in a RCRA-licensed facility.

RCRA: DOO1

## **14. Transport Information**

Land transport USDOT	
Hazard class:	3
Packing group:	III
ID number:	UN 2527
Hazard label:	3
Proper shipping name:	ISOBUTYL ACRYLATE, STABILIZED
<b>Sea transport</b> IMDG	
Hazard class:	3
Packing group:	III
ID number:	UN 2527
Hazard label:	3
Marine pollutant:	NO
Proper shipping name:	ISOBUTYL ACRYLATE, STABILIZED
Air transport IATA/ICAO	
Hazard class:	3
Packing group:	III
ID number:	UN 2527
Hazard label:	3
Proper shipping name:	ISOBUTYL ACRYLATE, STABILIZED

# **15. Regulatory Information**

# Federal Regulations

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## **Registration status:**

Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories):

CERCLA RQ<br/>5000 LBSCAS Number<br/>79-10-7Chemical name<br/>acrylic acid<br/>isobutylacrylate100 LBS106-63-8isobutylacrylateReportable Quantity for release:100 lb

#### State regulations

State RTK	CAS Number	Chemical name	
MA, NJ, PA	106-63-8	isobutylacrylate	
MA, NJ, PA	150-76-5	MEHQ	

## NFPA Hazard codes:

Health : 2 Fire: 3 Reactivity: 1 Special:

#### **HMIS III rating**

Health: 2 Flammability: 3 Physical hazard:1

#### Assessment of the hazard classes according to UN GHS criteria (most recent version):

Aquatic Acute	2	Hazardous to the aquatic environment - acute
Aquatic Chronic	3	Hazardous to the aquatic environment - chronic
Acute Tox.	5 (oral)	Acute toxicity
Acute Tox.	4 (Inhalation - vapour)	Acute toxicity
Acute Tox.	4 (dermal)	Acute toxicity
Skin Corr./Irrit.	2	Skin corrosion/irritation
STOT SE	3 (irritating to respiratory system)	Specific target organ toxicity — single exposure
Flam. Liq.	3	Flammable liquids
Skin Sens.	1B	Skin sensitization

Acute; Fire

## **16. Other Information**

#### SDS Prepared by:

BASF NA Product Regulations SDS Prepared on: 2015/03/04

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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