

# Safety data sheet

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BASF Safety data sheet  
Date / Revised: 17.08.2023  
Product: **ISOBUTANOL**

Version: 7.0

(30034839/SDS\_GEN\_PH/EN)

Date of print: 20.11.2024

## 1. Substance/preparation and manufacturer/supplier identification

**Product name:**  
**ISOBUTANOL**

Use: Chemical

Manufacturer/supplier:

BASF Philippines, Inc.  
Upper Penthouse CTP ASEAN Tower  
Asean Drive, Spectrum District  
Filinvest Corporate City, Alabang,  
Muntinlupa City, 1781, Metro Manila  
PHILIPPINES  
Telephone: +63 2 8811-8001  
E-mail address: psr.ph@basf.com

Emergency information:

National emergency number:  
+63 2 8831 5576  
International emergency number:  
Telephone: +49 180 2273-112

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## 2. Hazard identification

Classification of the substance and mixture:

Aspiration hazard: Cat.2

Flammable liquids: Cat.3

Acute toxicity: Cat.5 (oral)

Acute toxicity: Cat.5 (dermal)

Skin corrosion/irritation: Cat.2

Serious eye damage/eye irritation: Cat.1

Specific target organ toxicity — single exposure: Cat.3 (Vapours may cause drowsiness and dizziness.)

Specific target organ toxicity — single exposure: Cat.3 (irritating to respiratory system)

Label elements and precautionary statement:

Pictogram:



Signal Word:  
 Danger

Hazard Statement:

H226	Flammable liquid and vapour.
H318	Causes serious eye damage.
H315	Causes skin irritation.
H305	May be harmful if swallowed and enters airways.
H336	May cause drowsiness or dizziness.
H335	May cause respiratory irritation.
H303 + H313	May be harmful if swallowed or in contact with skin.

Precautionary Statements (Prevention):

P280	Wear protective gloves and eye protection or face protection.
P271	Use only outdoors or in a well-ventilated area.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261	Avoid breathing mist or vapour or spray.
P243	Take action to prevent static discharges.
P241	Use explosion-proof electrical, ventilating and lighting equipment.
P264	Wash contaminated body parts thoroughly after handling.
P240	Ground and bond container and receiving equipment.
P242	Use non-sparking tools.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or physician.
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 or shower.
P331	Do NOT induce vomiting.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P370 + P378	In case of fire: Use ... to extinguish.

Precautionary Statements (Storage):

P233	Keep container tightly closed.
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.
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Other hazards which do not result in classification:

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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.

### 3. Composition/information on ingredients

#### Chemical nature

Substance nature: Substance

isobutyl alcohol (Content (W/W): > 99.5 %)  
CAS Number: 78-83-1

#### Hazardous ingredients

isobutyl alcohol

Content (W/W):  $\geq 99.63\%$  -  $\leq 99.845\%$   
CAS Number: 78-83-1

Asp. Tox.: Cat. 2  
Flam. Liq.: Cat. 3  
Acute Tox.: Cat. 5 (oral)  
Acute Tox.: Cat. 5 (dermal)  
Skin Corr./Irrit.: Cat. 2  
Eye Dam./Irrit.: Cat. 1  
STOT SE: Cat. 3 (drowsiness and dizziness)  
STOT SE: Cat. 3 (irr. to respiratory syst.)

n-butanol

Content (W/W):  $\geq 0.001\%$  -  $\leq 0.201\%$   
CAS Number: 71-36-3

Flam. Liq.: Cat. 3  
Acute Tox.: Cat. 5 (oral)  
Acute Tox.: Cat. 5 (dermal)  
Skin Corr./Irrit.: Cat. 2  
Eye Dam./Irrit.: Cat. 1  
STOT SE: Cat. 3 (drowsiness and dizziness)  
STOT SE: Cat. 3 (irr. to respiratory syst.)

propan-1-ol

Content (W/W):  $\geq 0\%$  -  $\leq 0.1\%$   
CAS Number: 71-23-8

Flam. Liq.: Cat. 2  
Acute Tox.: Cat. 5 (dermal)  
Eye Dam./Irrit.: Cat. 1  
STOT SE: Cat. 3 (drowsiness and dizziness)

### 4. First-Aid Measures

General advice:

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

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If inhaled:

Keep patient calm, remove to fresh air, seek medical attention. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

On skin contact:

Immediately wash thoroughly with plenty of water, apply sterile dressings, consult a skin specialist.

On contact with eyes:

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

On ingestion:

Immediately rinse mouth and then drink 200-300 ml of water, seek medical attention.

Note to physician:

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Hazards: Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11. (Further) symptoms and / or effects are not known so far

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

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## 5. Fire-Fighting Measures

Suitable extinguishing media:

dry powder, water spray, carbon dioxide, alcohol-resistant foam

Unsuitable extinguishing media for safety reasons:

water jet

Additional information:

Use extinguishing measures to suit surroundings.

Specific hazards:

Flammable liquid Cool endangered containers with water-spray. See SDS section 7 - Handling and storage.

Special protective equipment:

Wear a self-contained breathing apparatus. Special protective equipment for firefighters

Further information:

Evacuate area of all unnecessary personnel. Fight fire from maximum distance.

Further information:

Extend fire extinguishing measures to the surroundings. Dispose of fire debris and contaminated extinguishing water in accordance with official regulations.

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## 6. Accidental Release Measures

### Personal precautions:

| Handle in accordance with good industrial hygiene and safety practice.

| Avoid all sources of ignition: heat, sparks, open flame. Use antistatic tools.

### Environmental precautions:

Discharge into the environment must be avoided.

### Methods for cleaning up or taking up:

| Pick up with suitable appliance and dispose of. Spills should be contained, solidified, and placed in suitable containers for disposal. Dispose of absorbed material in accordance with regulations.

Additional information: High risk of slipping due to leakage/spillage of product.

Release of substance/product can cause fire or explosion. Shut off or stop source of leak. Shut off or stop released substance/product under safe conditions.

Pack in tightly closed containers for disposal.

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## 7. Handling and Storage

### Handling

| Handle in accordance with good industrial hygiene and safety practice.

### Protection against fire and explosion:

| Avoid all sources of ignition: heat, sparks, open flame. Ground all transfer equipment properly to prevent electrostatic discharge.

### Storage

Further information on storage conditions: Keep container tightly closed and dry; store in a cool place.

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## 8. Exposure controls and personal protection

### Components with occupational exposure limits

isobutyl alcohol, 78-83-1;

TWA value 50 ppm (ACGIHTLV)

TWA value 300 mg/m<sup>3</sup> ; 100 ppm (OEL (PH))

### Personal protective equipment

#### Respiratory protection:

Wear respiratory protection if ventilation is inadequate. Gas filter for gases/vapours of organic compounds (boiling point >65 °C, e. g. EN 14387 Type A)

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**Hand protection:**

Suitable chemical resistant safety gloves (EN ISO 374-1) also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1): E.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm) etc. Manufacturer's directions for use should be observed because of great diversity of types.

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

**Eye protection:**

Tightly fitting safety goggles (splash goggles) (e.g. EN 166)

**Body protection:**

Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

**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.

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## 9. Physical and Chemical Properties

Form:	liquid	
Colour:	colourless	
Odour:	alcohol-like	
Odour threshold:	not determined	
pH value:	not applicable	
Melting point:	< -90 °C	(ASTM D97)
Boiling point:	108 °C (1,013 hPa)	(OECD Guideline 103)
Flash point:	31 °C	(ISO 2719, closed cup)
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	
Flammability (solid/gas):	Flammable liquid and vapour.	(derived from flash point)

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Lower explosion limit:	1.1 %(V) (19.9 °C) The lower explosion point of the substance/mixture has been determined. The explosion point describes the temperature of a flammable liquid at which the concentration of the saturated vapour mixed with air equals the lower explosion limit.	
Upper explosion limit:	11.7 %(V) (59.4 °C) The upper explosion point of the substance/mixture has been determined. This explosion point describes the temperature of a flammable liquid at which the concentration of the saturated vapour mixed with air equals the upper explosion limit.	
Ignition temperature:	400 °C	(DIN 51794)
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Self ignition:	not self-igniting	Test type: Spontaneous self-ignition at room-temperature.
Self heating ability:	not applicable, the product is a liquid	
Explosion hazard:	Based on the chemical structure there is no indication of explosive properties.	
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	
Vapour pressure:	9.5 hPa (20 °C) 70.7 hPa (50 °C)	
Density:	0.8017 g/cm <sup>3</sup> (20 °C)	(DIN 51757)
Relative density:	0.8017 (20 °C)	(DIN 51757)
Relative vapour density (air):	2.55 (20 °C) Heavier than air.	(calculated)
Solubility in water:	70 g/l (20 °C)	
Solubility (qualitative) solvent(s):	organic solvents soluble	

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Partitioning coefficient n-octanol/water (log Pow):	1	(OECD Guideline 117)
	(25 °C)	
Adsorption/water - soil:	KOC: 2.92; log KOC: 0.47	(calculated)
Surface tension:	69.7 mN/m	(OECD-Guideline 115, Ring method)
	(20 °C; 1 g/l)	
Viscosity, dynamic:	3.103 mPa.s	
	(20 °C)	
	Literature data.	
Molar mass:	74.12 g/mol	

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## 10. Stability and Reactivity

Conditions to avoid:

No special precautions other than good housekeeping of chemicals.

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

Substances to avoid:  
strong oxidizing agents

Corrosion to metals: No corrosive effect on metal.

Hazardous reactions:  
Reacts with strong oxidizing agents.

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

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

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## 11. Toxicological Information

### Routes of exposure

#### Acute oral toxicity

Experimental/calculated data:

LD50rat (oral): > 2,830 - 3,350 mg/kg (OECD Guideline 401)

#### Acute inhalation toxicity

LC50 rat (by inhalation): > 18.18 mg/l 6 h (similar to OECD guideline 403)

The vapour was tested.

#### Acute dermal toxicity

LD50 rabbit (dermal): > 2,000 - 2,460 mg/kg (OECD Guideline 402)

#### Assessment of acute toxicity



Of low toxicity after single ingestion. Of low toxicity after short-term skin contact. Virtually nontoxic by inhalation.

### **Symptoms**

Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

### **Irritation**

Assessment of irritating effects:

May cause severe damage to the eyes. Skin contact causes irritation.

Experimental/calculated data:

Skin corrosion/irritation rabbit: Irritant. (OECD Guideline 404)

Serious eye damage/irritation rabbit: irreversible damage (OECD Guideline 405)

### **Respiratory/Skin sensitization**

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Experimental/calculated data:

Guinea pig maximization test guinea pig: Non-sensitizing.

The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

### **Germ cell mutagenicity**

Assessment of mutagenicity:

The substance was not mutagenic in bacteria. The substance was not mutagenic in mammalian cell culture. The substance was not mutagenic in studies with mammals.

### **Carcinogenicity**

Assessment of carcinogenicity:

The chemical structure does not suggest a specific alert for such an effect.

### **Reproductive toxicity**

Assessment of reproduction toxicity:

The results of animal studies gave no indication of a fertility impairing effect.

### **Developmental toxicity**

Assessment of teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies.

### **Experiences in humans**

Experimental/calculated data:

High concentrations have a narcotizing effect.

### Specific target organ toxicity (single exposure)

Possible narcotic effects (drowsiness or dizziness). Causes temporary irritation of the respiratory tract.

### Repeated dose toxicity and Specific target organ toxicity (repeated exposure)

Assessment of repeated dose toxicity:  
No substance-specific organotoxicity was observed after repeated administration to animals.

### Aspiration hazard

Some authorities consider isobutyl alcohol, n-primary alcohols and ketones with C3-C13 as "May be harmful if swallowed and enters airways"

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## 12. Ecological Information

### Ecotoxicity

Assessment of aquatic toxicity:  
There is a high probability that the product is not acutely harmful to 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) 1,430 mg/l, *Pimephales promelas* (Fish test acute, Flow through.)  
The statement of the toxic effect relates to the analytically determined concentration.

Aquatic invertebrates:  
EC50 (48 h) 1,100 mg/l, *Daphnia pulex* (ASTM E1193-97, static)  
Nominal concentration.

Aquatic plants:  
EC50 (72 h) 1,799 mg/l (growth rate), *Pseudokirchneriella subcapitata* (OECD Guideline 201, static)  
The statement of the toxic effect relates to the analytically determined concentration.

Microorganisms/Effect on activated sludge:  
Toxic limit concentration (16 h) 280 mg/l, *Pseudomonas putida* (DIN 38412 Part 8, aquatic)

Chronic toxicity to fish:  
No data available regarding toxicity to fish.

Chronic toxicity to aquatic invertebrates:  
No observed effect concentration (21 d), 20 mg/l, *Daphnia magna* (Daphnia test chronic, semistatic)  
Nominal concentration.

Assessment of terrestrial toxicity:  
No data available concerning terrestrial toxicity.

## Mobility

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

## Persistence and degradability

Elimination information:  
70 - 80 % BOD of the ThOD (28 d) (OECD 301D; EEC 92/69, C.4-E) (aerobic, other)

Assessment of stability in water:  
According to structural properties, hydrolysis is not expected/probable.

Information on Stability in Water (Hydrolysis):  
No data available.

No data available.

## Bioaccumulation potential

Assessment bioaccumulation potential:  
Significant accumulation in organisms is not to be expected.

Bioaccumulation potential:  
No data available.

## Other adverse effects

Adsorbable organically-bound halogen (AOX):  
This product contains no organically-bound halogen.

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## 13. Disposal Considerations

| Dispose of in accordance with national, state and local regulations.

Contaminated packaging:  
| Disposal must be made according to official regulations.

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## 14. Transport Information

### Domestic transport:

UN number or ID number: UN 1212  
UN proper shipping name: ISOBUTANOL (ISOBUTYL ALCOHOL)  
Transport hazard class(es): 3  
Packing group: III  
Environmental hazards: no

Special precautions for user: None known

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**Sea transport**

## IMDG

UN number or ID number: UN 1212  
UN proper shipping name: ISOBUTANOL (ISOBUTYL ALCOHOL)  
Transport hazard class(es): 3  
Packing group: III  
Environmental hazards: no  
Marine pollutant: NO  
Special precautions for user: EmS: F-E; S-D

**Air transport**

## IATA/ICAO

UN number or ID number: UN 1212  
UN proper shipping name: ISOBUTANOL  
Transport hazard class(es): 3  
Packing group: III  
Environmental hazards: No Mark as dangerous for the environment is needed  
Special precautions for user: None known

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**15. Regulatory Information****Other regulations**

1. Joint DTI-DENR-DA-DOF-DOH-DILG-DOLE-DOTC Administrative Order No. 01 Series of 2009 on "The Adoption and Implementation of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)"
2. DAO 2015-09 "Rules and Procedures for the Implementation of the Globally Harmonized System (GHS) of Classification and Labelling of Chemicals in Prepration of Safety Data Sheet (SDS) and Labelling Requirements of Toxic Chemical Substances"
3. Republic Act No. 6969, "Toxic Substances and Hazardous and Nuclear Wastes Control Act of 1990"

The regulatory information is not intended to be comprehensive. Other regulations may apply to the material

**Registration status:**

PICCS, PH released / listed

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## 16. Other Information

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Vertical lines in the left hand margin indicate an amendment from the previous version.

The data contained in this safety data sheet are based on our current knowledge and experience and describe the product only with regard to safety requirements. This safety data sheet is neither a Certificate of Analysis (CoA) nor technical data sheet and shall not be mistaken for a specification agreement. Identified uses in this safety data sheet do neither represent an agreement on the corresponding contractual quality of the substance/mixture nor a contractually designated use. It is the responsibility of the recipient of the product to ensure any proprietary rights and existing laws and legislation are observed.