

# Safety data sheet

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BASF Safety data sheet  
Date / Revised: 16.09.2023  
Product: **n-BUTYRALDEHYDE**

Version: 2.0

(30036655/SDS\_GEN\_TH/EN)

Date of print: 12.10.2025

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

**Product name:**  
**n-BUTYRALDEHYDE**

Use: Chemical

Manufacturer/supplier:  
BASF (Thai) Limited  
23rd Floor, Emporium Tower, 622, Sukhumvit 24 Rd.,  
Klongton, Klongtoey, Bangkok 10110, THAILAND  
Telephone: +66 2624-1999  
Telefax number: +66 2664-9254  
E-mail address: Thailand-SDS-info@basf.com

Emergency information:  
International emergency number:  
Telephone: +49 180 2273-112

## 2. Hazard identification

### Classification according to UN GHS 2009

Classification of the substance and mixture:  
Flammable liquids: Cat.2  
Acute toxicity: Cat.5 (oral)  
Acute toxicity: Cat.5 (dermal)  
Serious eye damage/eye irritation: Cat.2B  
Hazardous to the aquatic environment - acute: Cat.3

Label elements and precautionary statement:

Pictogram:



Signal Word:  
Danger

## Hazard Statement:

H225	Highly flammable liquid and vapour.
H320	Causes eye irritation.
H303 + H313	May be harmful if swallowed or in contact with skin.
H402	Harmful to aquatic life.

## Precautionary Statements (Prevention):

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves and eye protection or face protection.
P243	Take action to prevent static discharges.
P273	Avoid release to the environment.
P241	Use explosion-proof electrical, ventilating and lighting equipment.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P242	Use non-sparking tools.
P264	Wash contaminated body parts thoroughly after handling.

## Precautionary Statements (Response):

P312	Call a POISON CENTER or physician if you feel unwell.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P337 + P311	If eye irritation persists: Call a POISON CENTER or physician.
P370 + P378	In case of fire: Use ... to extinguish.

## Precautionary Statements (Storage):

P403 + P235	Store in a well-ventilated place. Keep cool.
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## 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:

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.

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### 3. Composition/information on ingredients

#### Chemical nature

Substance nature: Substance

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butyraldehyde (Content (W/W): > 99 %)  
CAS Number: 123-72-8

### **Hazardous ingredients**

butyraldehyde	
Content (W/W): > 99 % - < 100 %	Flam. Liq.: Cat. 2
CAS Number: 123-72-8	Acute Tox.: Cat. 5 (oral)
	Acute Tox.: Cat. 5 (dermal)
	Eye Dam./Irrit.: Cat. 2B
	Aquatic Acute: Cat. 3

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## **4. First-Aid Measures**

### General advice:

Immediately remove contaminated clothing. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). If not breathing, give artificial respiration.

### If inhaled:

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

### On skin contact:

Wash thoroughly with soap and water

### 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.

Treatment: Symptomatic treatment (decontamination, vital functions).

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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:

| Highly flammable. Cool endangered containers with water-spray. See SDS section 7 - Handling and storage.

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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 in a cool, well-ventilated place. Protect from air. Keep under inert gas.

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## 8. Exposure controls and personal protection

Components with occupational exposure limits

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No occupational exposure limits known.

#### 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)

##### Hand protection:

Chemical resistant protective gloves (EN ISO 374-1)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN ISO 374-1):

butyl rubber (butyl) - 0.7 mm coating thickness

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:

Safety glasses with side-shields (frame 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:

Handle in accordance with good industrial hygiene and safety practice. 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:	aldehyde-like	
Odour threshold:	not determined	
pH value:	6 - 7 (71 g/l, 20 °C)	
Freezing point:	-99 °C (1,013 hPa) Literature data.	(other)
Boiling point:	74.9 °C (1,013 hPa)	(other)
Flash point:	-12 °C	(DIN 51755, closed cup)
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	

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Flammability (solid/gas):	Highly flammable.	(derived from flash - and boiling point)
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 and labelling.	
Ignition temperature:	195 °C	(DIN 51794)
Thermal decomposition:	No decomposition if stored and handled as prescribed/indicated.	
Self ignition:	Temperature: 195 °C Pressure: 1,013 hPa not self-igniting	Test type: Self-ignition at high temperatures. (Method: DIN 51794)
	not self-igniting	Test type: Spontaneous self-ignition at room-temperature. (Method: other)
Self heating ability:	It is not a substance capable of spontaneous heating.	
Explosion hazard:	Based on the chemical structure there is no indication of explosive properties.	(other)
Fire promoting properties:	Based on its structural properties the product is not classified as oxidizing.	(other)
Vapour pressure:	116.4 hPa (20 °C) dynamic	(BASF method)
Density:	0.81 g/cm <sup>3</sup> (20 °C, 1,013 hPa)	(OECD Guideline 109)
Relative density:	0.81 (20 °C, 1,013 hPa)	(OECD Guideline 109)
Relative vapour density (air):	2.48 (20 °C) Heavier than air.	(calculated)
Solubility in water:	37 g/l (25 °C)	
Partitioning coefficient n-octanol/water (log Pow):	0.79 (25 °C)	(OECD Guideline 107)
Adsorption/water - soil:	KOC: 5.1; log KOC: 0.707	(calculated)
Surface tension:	Based on chemical structure, surface activity is not to be expected.	(other)

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Viscosity, dynamic: 0.43 mPa.s  
(20 °C)  
Literature data.

Molar mass: 72.11 g/mol

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## 10. Stability and Reactivity

Conditions to avoid:  
Avoid all sources of ignition: heat, sparks, open flame.

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

Substances to avoid:  
amines, amine compounds, lye, lye mixtures

Corrosion to metals: No corrosive effect on metal.

Hazardous reactions:  
When finely distributed, self-ignition is possible.

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): 4,167 mg/kg  
Literature data.

#### Acute inhalation toxicity

LC50 rat (by inhalation): 49 mg/l 4 h  
Literature data. The vapour was tested.

#### Acute dermal toxicity

LD50 rabbit (dermal): > 2,000 mg/kg

#### Assessment of acute toxicity

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

#### 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:

Not irritating to the skin. Eye contact causes irritation.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

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

### **Respiratory/Skin sensitization**

Assessment of sensitization:

Skin sensitizing effects were not observed in animal studies.

Experimental/calculated data:

Buehler test guinea pig: Non-sensitizing.

### **Germ cell mutagenicity**

Assessment of mutagenicity:

Most of the results from the available studies show no evidence of a mutagenic effect.

### **Carcinogenicity**

Assessment of carcinogenicity:

No data available concerning carcinogenic effects.

### **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.

### **Developmental toxicity**

Assessment of teratogenicity:

No indications of a developmental toxic / teratogenic effect were seen in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

### **Specific target organ toxicity (single exposure)**

Based on available data, the classification criteria are not met.

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

Assessment of repeated dose toxicity:



The substance may cause damage to the upper respiratory tract after repeated inhalation, as shown in animal studies.

### **Aspiration hazard**

No data available.

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## **12. Ecological Information**

### **Ecotoxicity**

Assessment of aquatic toxicity:

Acutely harmful 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) 25.8 mg/l, *Pimephales promelas* (Fish test acute, static)

Aquatic invertebrates:

EC50 (24 h) 195 mg/l, *Daphnia magna* (DIN 38412 Part 11, static)

Nominal concentration.

Aquatic plants:

Toxic limit concentration (192 h) 83 mg/l (growth rate), *Scenedesmus quadricauda* (Growth Inhibition Test)

Microorganisms/Effect on activated sludge:

Toxic limit concentration (16 h) 100 mg/l, *Pseudomonas putida* (DIN 38412 Part 8, aquatic)

Chronic toxicity to fish:

LC50 (14 d) 13.7 mg/l, *Poecilia reticulata* (OECD Guideline 204, semistatic)

Chronic toxicity to aquatic invertebrates:

No data available regarding toxicity to daphnids.

Assessment of 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:

46 - 57 % BOD of the ThOD (5 d) (OECD 301C; ISO 9408; 92/69/EEC, C.4-F) (aerobic, activated sludge)

Assessment of stability in water:

According to structural properties, hydrolysis is not expected/probable.

Information on Stability in Water (Hydrolysis):

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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 1129  
UN proper shipping name: BUTYRALDEHYDE  
Transport hazard class(es): 3  
Packing group: II  
Environmental hazards: no

Special precautions for user: None known

### Sea transport

IMDG

UN number or ID number: UN 1129  
UN proper shipping name: BUTYRALDEHYDE  
Transport hazard class(es): 3  
Packing group: II  
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 1129

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UN proper shipping name:	BUTYRALDEHYDE
Transport hazard class(es):	3
Packing group:	II
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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

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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.

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