

Safety Data Sheet

According to Regulation (EC) No 1907/2006

N-butane

Version 3.0

Issue date: 22/01/2015

Revision date: 22/01/2022

SDS Record Number: CSSS-TCO-010-116130

Section 1 Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier:

Identification on the label/Trade name: N-butane
Additional identification: Not available
Identification of the product: CAS#106-97-8 EC#203-448-7
Index Number: Not available
REACH registration No.: Not available

1.2 Relevant identified uses of the substance and uses advised against:

1.2.1 Identified uses:

Not available.

1.2.2 Uses advised against:

Not available.

1.3 Details of the supplier of the safety data sheet:

Supplier(Only representative):

Supplier(Manufacturer): Zibo Yuhui Jinhe Trading Co., Ltd

Address: Room 1104, Building E, Qilu E-Commerce Vally, NO.139 Liuquan Road, High-Tech Zone,Zibo City, Shandong Province

Contact person(E-mail):

Telephone: 0533-2060598

Fax:

1.4 Emergency telephone Number:

+86-533-3883168 (only available during 9:00-17:00, Beijing time zone)

Available outside office hours?

YES

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NO

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Section 2 Hazards Identification

2.1 Classification of the substance/mixture:

2.1.1 Classification:

The substance is classified as following according to 67/548/EEC and REGULATION (EC) No 1272/2008:

REGULATION (EC) No 1272/2008	
Hazard classes/Hazard categorie	Hazard statement
Press.Gas	H280
Flam. Gas 1	H220

For full text of H-phrases: see section 2.2.

1999/45/EC	
Hazards characteristics	R-Phrases
F+	R12

For full text of R-phrases: see section 16.

2.2 label elements:

Product name: N-butane

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SDS EU

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Hazard Pictograms:**Signal Word(S):**

Danger

Hazard Statement:

H220: Extremely flammable gas.

H280: Contains gas under pressure; may explode if heated.

Precautionary statement:

P210: Keep away from heat/sparks/open flames/hot surfaces. — No smoking.

P377: Leaking gas fire: Do not extinguish, unless leak can be stopped safely.

P381: Eliminate all ignition sources if safe to do so.

P410 + P403: Protect from sunlight. Store in a well-ventilated place.

2.3 Other hazards:

Not applicable.

Section 3 Composition/information on ingredients**Substance/Mixture:**

Substance

Ingredient(s):

Chemical Name	Registration No.	CAS No.	EC No.	Concentration
N-butane	N/A	106-97-8	203-448-7	≥99.5%
Isobutane	N/A	75-28-5	200-857-2	≤0.5%

Section 4 First aid measures**4.1 Description of first aid measures:**

In all cases of doubt, or when symptoms persist, seek medical attention.

4.1.1 In case of inhalation:

Move victims into fresh air. Place person on side in stable position if unconscious. In case of difficulties in breathing, supply oxygen. Employ artificial respiration if breathing ceases. Consult a physician immediately.

4.1.2 In case of skin contact:

In the event of frostbite, rinse copiously with water. Do not remove clothing that adheres due to freezing. Cover with sterile dressing and seek medical advice.

4.1.3 In case of eyes contact:

Flush affected eye immediately with water at ambient temperature. Do not force eyelids open. Consult an ophthalmologist.

4.1.4 In case of ingestion:

Ingestion by swallowing is not considered a possible mode of exposure.

4.2 Most important symptoms and effects, both acute and delayed:

The product is not classified as harmful to human health effect.

4.3 Indication of any immediate medical attention and special treatment needed:

If skin irritation or rash occurs, get medical advice/attention.

Section 5 Fire-Fighting measures

5.1 Extinguishing media:

Suitable extinguishing media: Water spray, foam, CO₂, dry powder.

Unsuitable extinguishing media: High volume water jet.

5.2 Special hazards arising from the substance or mixture

Heavier than air vapour. Formation of flammable or explosive vapour/air mixtures possible. Keep all ignition sources out of area. In case of fire cool endangered containers with water. Closed container may rupture if strongly heated.

5.3 Special fire fighting methods and special protective actions for fire-fighters:

In the case of respirable gas, use self-contained breathing apparatus.

Section 6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

6.1.1 For non-emergency personnel: Remove ignition sources. Provide adequate ventilation. Avoid inhalation vapour. Avoid skin and eye contact. For personal protection see Section 8.

6.1.2 For emergency responders: Wear an appropriate NIOSH/MSHA approved respirator if vapour is generated.

6.2 Environmental Precautions:

Do not allow entrance in sewage water, drainage systems, stretches of water, soil. Avoid penetration into drainage system or in rooms situated at a lower level because of danger of explosion. Issue an immediate alarm report to the company environmental protection department if the product unintentionally leaves the production area.

6.3 Methods for Containment and Cleaning up:

Taking special safety precautions. Confine and allow to evaporate.

6.4 Reference to other sections:

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

6.5 Additional information:

Not applicable.

Section 7 Handling and storage

7.1 Precautions for safe handling:

7.1.1 Protective measures:

Avoid contact with skin and eyes. Provide good ventilation or extraction. Ensure good room ventilation at floor level too. Observe special instructions applicable to compressed gases. Advice on protection against fire and explosion. Take precautionary measures against static charges, keep away from sources of ignition.

Explosion protection equipment required. Avoid Incompatible materials (See Section 10).

7.1.2 Advice on general occupational hygiene:

Do not eat, drink and smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities:

Keep containers tightly closed in a cool, well-ventilated place. Keep away from direct sunlight. Suitable materials mild steel. Advice on common storage. Observe prohibition against storing together.

7.3 Specific end use(s):

Not applicable.

Section 8 Exposure Controls/Personal Protection

8.1 Control parameters:

8.1.1 Occupational exposure limits:	N-butane (CAS 106-97-8): Occupational Exposure Limit Value:8h=600ppm, 1430mg/ m ³ ; 15min=750ppm, 1780 mg/ m ³ (Ireland) Isobutane (CAS 75-28-5): Workplace exposure limit=1000ppm, 2400mg/ m ³ (Germany)
8.1.2 Additional exposure limits under the conditions of use:	Not available.
8.1.3 DNEL/DMEL and PNEC-Values:	Not available.

8.2 Exposure controls:

8.2.1 Appropriate engineering controls:	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
8.2.2 Individual protection measures, such as personal protective equipment:	
Eye/face protection:	Close-fitting protective goggles (e.g. closed goggles) or face protection.
Hand protection:	Glove material suitable protective gloves, e.g. nitrile-butadiene rubber (NBR) gloves, leather gloves, heat insulating. Selection of protective gloves to meet the requirements of specific workplaces.
Body protection:	Select materials and equipment for physical protection depending on the concentration and volume of hazardous substances and the workplace involved.
Respiratory protection:	In case of dusts/vapours/aerosols being formed or if the limit values like TLV are exceeded: If concentrations in the breathed air are low: Respirator with brown AX-type filter. Put on Respiratory protective equipment independent of surrounding air with high gas/vapour concentrations.
Thermal hazards:	Wear suitable protective clothing to prevent heat.
8.2.3 Environmental exposure controls:	Avoid discharge into the environment. According to local regulations, Federal and official regulations.

Section 9 Physical and chemical properties

9.1 Information on basic physical and chemical properties:

Appearance:	Gaseous
Colour:	Colourless
Odour:	Odourless
Odour threshold:	Not available
pH:	Not available
Melting point/range (°C):	-138 °C
Boiling point/range (°C):	-0.5 °C
Flash point (°C):	-60 °C
Evaporation rate:	Not available
Flammability limit - lower (%):	Not available
Flammability (solid, gas):	Not available
Ignition temperature (°C):	Not available
Upper/lower flammability/explosive limits:	8.4%/1.8%
Vapour pressure (20°C):	Not available
Vapour density:	Not available
Density:	0.589 g/cm ³ (25 °C)

Bulk density (kg/m³):	Not available
Water solubility (g/l):	61.2 mg/L(25 °C)
n-Octanol/Water (log Po/w):	1.09 (20 °C)
Auto-ignition temperature:	287 °C
Decomposition temperature:	Not available
Viscosity, dynamic (mPa.s):	Not available
Explosive properties:	Not explosive
Oxidising properties:	Not available
Molecular Formula:	C ₄ H ₁₀
Molecular Weight:	58.12

9.2. Other information:

Fat solubility(solvent– oil to be specified)	Not available
etc:	
Surface tension:	Not available
Dissociation constant in water(pKa):	Not available
Oxidation-reduction Potential:	Not available
Specific gravity:	Not available

Section 10 Stability and reactivity

10.1 Reactivity:	The substance is stable under normal storage and handling conditions.
10.2 Chemical stability:	Stable at room temperature in closed containers under normal storage and handling conditions.
10.3 Possibility of hazardous reactions:	Vapours may form explosive mixture with air.
10.4 Conditions to avoid:	Incompatible materials. Keep away from heat and sources of ignition.
10.5 Incompatible materials:	Strong oxidizing agents, chlorine, oxygen.
10.6 Hazardous decomposition products:	In case of fire or thermal decomposition production of, for example, Carbon monoxide, carbon dioxide (CO ₂).

Section 11 Toxicological information

11.1 Toxicokinetics, metabolism and distribution:	
Non-human toxikological data:	Not available
11.2 Information on toxicological effects:	
Acute toxicity:	
LD50(Oral, Rat):	Not available
LD50(Dermal, Rabbit):	Not available
LC50(Inhalation, Mouse):	520400 ppm 2h
Skin corrosion/Irritation:	Not classified
Serious eye damage/irritation:	Not classified
Respiratory or skin sensitization:	Not classified
Germ cell mutagenicity:	Not classified
Carcinogenicity:	Not classified
Reproductive toxicity:	Not classified
STOT- single exposure:	Not classified

STOT-repeated exposure: Not classified

Aspiration hazard: Not classified

Section 12 Ecological information

Toxicity:

Acute toxicity		Time	Species	Method	Evaluation	Remarks
LC50	147.54 mg/L	96h	Fish	OECD 203	N/A	N/A
EC50	N/A	48h	Daphnia	OECD 202	N/A	N/A
EC50	N/A	72h	Algae	OECD 201	N/A	N/A

Persistence and degradability: Not available.

Bioaccumulative potential: Not available.

Mobility in soil: Not available.

Results of PBT&vPvB assessment: Not available.

Other adverse effects: Not available.

Section 13 Disposal considerations

13.1 Waste treatment methods: Due to the high risk of contamination recycling/recovery is not recommended. Waste disposal in accordance with regulations (most probably controlled incineration).

13.2 Product / Packaging disposal: According to local regulations. Emptied container might retain product residues. Follow all warnings even after the container is emptied.

Section 14 Transport information

	Land transport(ADR/RID)	Sea transport (IMDG)	Air transport (ICAO/IATA)
UN-Number	UN1011	UN1011	UN1011
UN Proper shipping name	BUTANE	BUTANE	BUTANE
Transport hazard Class	2.1	2.1	2.1
Packaging group	Not regulated	Not regulated	Not regulated
Environmental hazards	No	No	No
Special precautions for user	See section 2.2	See section 2.2	See section 2.2
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not regulated	Not regulated	Not regulated

Section 15 Regulation information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture:

Relevant information regarding authorization: Not applicable.

Relevant information regarding restriction: Not applicable.

Other EU regulations: Employment restrictions concerning young person must be observed. For use only by technically qualified individuals.

Other National regulations:

Not applicable

Chemical Safety Assessment has been carried out?

YES

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NO

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Section 16 Other information

16.1 Indication of changes:

Version 1.0 Amended by EU No 453/2010

16.2 Relevant R- phrases (number and full text):

R12 Extremely flammable.

16.3 Training instructions:

Not applicable.

16.4 Further information:

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

16.5 Notice to reader:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.