



N-BUTANE

Safety Data Sheet

In accordance with the Regulation on Safety Data Sheets Regarding Hazardous Substances and Mixtures published in the Official Journal numbered 29204 on December 13, 2014
Date of issue: 25/03/2019 Version: 1.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Substance
Substance name : N-BUTANE
EC Index-No. : 601-004-00-0
EC-No. : 203-448-7
CAS-No. : 106-97-8
REACH registration No : 01-2119474691-32
Product code : EIGA014
Formula : C4H10
Product group : Trade product

1.2. Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses : Industrial and professional. Perform risk assessment prior to use, Test gas/Calibration gas, Chemical reaction / Synthesis, Use as a fuel, Laboratory use, Contact supplier for more information on uses.
Uses advised against : Consumer use.

1.3. Details of the supplier of the safety data sheet

KOYUNCU TİCARET A.Ş.
GEBZE 5 (KİMYA) İHTİSAS OSB GEBKİM OSB RECEP YAZICI CAD.NO:4
DİLOVASI
KOCAELİ - Türkiye
T +90 262 658 06 05
safis@koyuncutas.com - www.koyuncutas.com

1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Turkey	Ulusal Zehir Merkezi (UZEM) Refik Saydam Hıfzıssıhha Merkezi Başkanlığı	Cemal Gürsel Cd. No: 18 Sıhhiye Çankaya 06590 Ankara	114	Information is provided to public and medical personnel on poisoning incidents via 114.

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.

Flammable gases, Category 1 H220

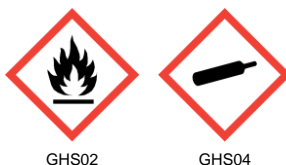
Gases under pressure : Liquefied gas H280

Full text of H-statements: see section 16

2.2. Label elements

Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.

Hazard pictograms (SEA) :



Signal word (SEA) : Danger
Hazard statements (SEA) : H220 - Extremely flammable gas.
H280 - Contains gas under pressure; may explode if heated.
Precautionary statements (SEA) : P377 - Leaking gas fire: Do not extinguish, unless leak can be stopped safely.
P381 - Eliminate all ignition sources if safe to do so.
P403 - Store in a well-ventilated place.
P410+P403 - Protect from sunlight. Store in a well-ventilated place.
Child-resistant fastening : Not applicable
Tactile warning : Not applicable



N-BUTANE

Safety Data Sheet

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Date of issue: 25/03/2019 Version: 1.0

2.3. Other hazards

Other hazards not contributing to the classification

Other hazards not contributing to the classification : Contact with liquid may cause cold burns/frostbite.

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.
N-BUTANE	(CAS-No.) 106-97-8 (EC-No.) 203-448-7 (EC Index-No.) 601-004-00-0 (REACH-no) 01-2119474691-32	100	Flam. Gas 1, H220 Press. Gas (Liq.), H280

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures after inhalation : Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.
- First-aid measures after skin contact : In case of frostbite spray with water for at least 15 minutes. Apply a sterile dressing. Obtain medical assistance.
- First-aid measures after eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes.
- First-aid measures after ingestion : Ingestion is not considered a potential route of exposure.

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

Most important symptoms and effects, both acute and delayed : Refer to section 11.

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

None.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water spray or fog. Dry powder.
- Unsuitable extinguishing media : Carbon dioxide. Do not use water jet to extinguish.

5.2. Special hazards arising from the substance or mixture

- Reactivity in case of fire : No reactivity hazard other than the effects described in sub-sections below.
- Hazardous combustion products : Carbon monoxide.

5.3. Advice for firefighters

- Specific methods : Do not extinguish a leaking gas flame unless absolutely necessary. Spontaneous/explosive re-ignition may occur. Extinguish any other fire. Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems. If possible, stop flow of product. Use water spray or fog to knock down fire fumes if possible. Move containers away from the fire area if this can be done without risk.
- Special protective equipment for fire fighters : In confined space use self-contained breathing apparatus. Standard protective clothing and equipment (Self Contained Breathing Apparatus) for fire fighters. Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask. Standard EN 469 - Protective clothing for firefighters. Standard - EN 659: Protective gloves for firefighters.



N-BUTANE

Safety Data Sheet

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Date of issue: 25/03/2019 Version: 1.0

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Try to stop release. Evacuate area. Monitor concentration of released product. Consider the risk of potentially explosive atmospheres. Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe. Eliminate ignition sources. Ensure adequate air ventilation. Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous. Act in accordance with local emergency plan. Stay upwind.

6.1.1. For non-emergency personnel

No additional information available

6.1.2. For emergency responders

No additional information available

6.2. Environmental precautions

Try to stop release.

6.3. Methods and material for containment and cleaning up

Methods and material for containment and cleaning up : Ventilate area.

6.4. Reference to other sections

See also sections 8 and 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Safe use of the product : Assess the risk of potentially explosive atmospheres and the need for explosion-proof equipment. Purge air from system before introducing gas. Take precautionary measures against static discharge. Keep away from ignition sources (including static discharges). Consider the use of only non-sparking tools. Ensure equipment is adequately earthed. The product must be handled in accordance with good industrial hygiene and safety procedures. Only experienced and properly instructed persons should handle gases under pressure. Consider pressure relief device(s) in gas installations. Ensure the complete gas system was (or is regularly) checked for leaks before use. Do not smoke while handling product. Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt. Avoid suck back of water, acid and alkalis. Do not breathe gas. Avoid release of product into work area.

Safe handling of the gas receptacle : Refer to supplier's container handling instructions. Do not allow backfeed into the container. Protect cylinders from physical damage; do not drag, roll, slide or drop. When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders. Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use. If user experiences any difficulty operating cylinder valve discontinue use and contact supplier. Never attempt to repair or modify container valves or safety relief devices. Damaged valves should be reported immediately to the supplier. Keep container valve outlets clean and free from contaminants particularly oil and water. Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment. Close container valve after each use and when empty, even if still connected to equipment. Never attempt to transfer gases from one cylinder/container to another. Never use direct flame or electrical heating devices to raise the pressure of a container. Do not remove or deface labels provided by the supplier for the identification of the cylinder contents. Suck back of water into the container must be prevented. Open valve slowly to avoid pressure shock.

7.2. Conditions for safe storage, including any incompatibilities

Conditions for safe storage, including any incompatibilities : Segregate from oxidant gases and other oxidants in store. All electrical equipment in the storage areas should be compatible with the risk of a potentially explosive atmosphere. Observe all regulations and local requirements regarding storage of containers. Containers should not be stored in conditions likely to encourage corrosion. Container valve guards or caps should be in place. Containers should be stored in the vertical position and properly secured to prevent them from falling over. Stored containers should be periodically checked for general condition and leakage. Keep container below 50°C in a well ventilated place. Store containers in location free from fire risk and away from sources of heat and ignition. Keep away from combustible materials.

7.3. Specific end use(s)

None.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters



N-BUTANE

Safety Data Sheet

In accordance with the Regulation on Safety Data Sheets Regarding Hazardous Substances and Mixtures published in the Official Journal numbered 29204 on December 13, 2014

Date of issue: 25/03/2019 Version: 1.0

N-BUTANE (106-97-8)	
DNEL/DMEL (additional information)	
Additional information	None established.
PNEC (additional information)	
Additional information	None established.

8.2. Exposure controls

Appropriate engineering controls	: Provide adequate general and local exhaust ventilation. Product to be handled in a closed system. Systems under pressure should be regularly checked for leakages. Ensure exposure is below occupational exposure limits (where available). Gas detectors should be used when flammable gases/vapours may be released. Consider the use of a work permit system e.g. for maintenance activities.
Personal protective equipment	: A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk. The following recommendations should be considered: PPE compliant to the recommended EN/ISO standards should be selected.
Hand protection	: Wear working gloves when handling gas containers. Standard EN 388 - Protective gloves against mechanical risk. Wear cold insulating gloves when transfilling or breaking transfer connections. Hydrogenated Nitrile -Butadiene rubber (HNBR)
Eye protection	: Wear goggles when transfilling or breaking transfer connections. Standard EN 166 - Personal eye-protection - specifications
Respiratory protection	: Gas filters may be used if all surrounding conditions e.g. type and concentration of the contaminant(s) and duration of use are known. Use gas filters with full face mask, where exposure limits may be exceeded for a short-term period, e.g. connecting or disconnecting containers. Recommended: Filter AX (brown). Gas filters do not protect against oxygen deficiency. Standard EN 14387 - Gas filter(s), combined filter(s) and standard EN136, full face masks .
Thermal hazard protection	: None in addition to the above sections.
Environmental exposure controls	: Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.
Other information	: Consider the use of flame resistant anti-static safety clothing. Standard EN ISO 14116 - Limited flame spread materials. Standard EN 1149-5 - Protective clothing: Electrostatic properties. Wear safety shoes while handling containers. Standard EN ISO 20345 - Personal protective equipment - Safety footwear.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Gas
Molecular mass	: 58 g/mol
Colour	: Colourless.
Odour	: Stenchant often added. Sweetish. Poor warning properties at low concentrations.
Odour threshold	: Odour threshold is subjective and inadequate to warn of overexposure.
pH	: Not applicable for gases and gas mixtures.
Relative evaporation rate (butylacetate=1)	: No data available
Relative evaporation rate (ether=1)	: Not applicable for gases and gas mixtures.
Melting point	: -138 °C
Freezing point	: -138 °C
Boiling point	: -0.5 °C
Flash point	: Not applicable for gases and gas mixtures.
Critical temperature	: 152 °C
Auto-ignition temperature	: 365 °C
Decomposition temperature	: Not applicable.
Flammability (solid, gas)	: Extremely flammable gas.
Vapour pressure	: 2 bar(a)
Vapour pressure at 50 °C	: 5 bar(a)
Critical pressure	: 3796 kPa
Relative vapour density at 20 °C	: Not applicable.
Relative density	: 0.6



N-BUTANE

Safety Data Sheet

In accordance with the Regulation on Safety Data Sheets Regarding Hazardous Substances and Mixtures published in the Official Journal numbered 29204 on December 13, 2014

Date of issue: 25/03/2019 Version: 1.0

Relative gas density	: 2.1
Solubility	: Water: 88 mg/l
Log Pow	: 2.89
Log Kow	: Not applicable for gas mixtures.
Viscosity, kinematic	: No reliable data available.
Viscosity, dynamic	: No reliable data available.
Explosive properties	: Not applicable.
Oxidising properties	: Not applicable.
Explosive limits	: 1.4 - 9.4 vol %

9.2. Other information

Gas group	: Press. Gas (Liq.)
Additional information	: Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

SECTION 10: Stability and reactivity

10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Can form explosive mixture with air. May react violently with oxidants.

10.4. Conditions to avoid

Keep away from heat/sparks/open flames/hot surfaces. – No smoking. Avoid moisture in installation systems.

10.5. Incompatible materials

Air, Oxidisers. For additional information on compatibility refer to ISO 11114.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
Skin corrosion/irritation	: Not classified pH: Not applicable for gases and gas mixtures.
Serious eye damage/irritation	: Not classified pH: Not applicable for gases and gas mixtures.
Respiratory or skin sensitisation	: 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

N-BUTANE (106-97-8)

Hydrocarbon	Yes
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SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Classification criteria are not met.
Acute aquatic toxicity	: Not classified
Chronic aquatic toxicity	: Not classified

N-BUTANE (106-97-8)

LC50 96 h - Fish [mg/l]	24.1 mg/l
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N-BUTANE

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Date of issue: 25/03/2019 Version: 1.0

N-BUTANE (106-97-8)	
EC50 48h - Daphnia magna [mg/l]	14.2 mg/l
EC50 72h - Algae [mg/l]	7.7 mg/l

12.2. Persistence and degradability

N-BUTANE (106-97-8)	
Persistence and degradability	The substance is readily biodegradable. Unlikely to persist.

12.3. Bioaccumulative potential

N-BUTANE (106-97-8)	
Log Pow	2.89
Log Kow	Not applicable for gas mixtures.
Bioaccumulative potential	Not expected to bioaccumulate due to the low log Kow (log Kow < 4). Refer to section 9.

12.4. Mobility in soil

N-BUTANE (106-97-8)	
Mobility in soil	No additional information available
Ecology - soil	Because of its high volatility, the product is unlikely to cause ground or water pollution. Partition into soil is unlikely.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment : Not classified as PBT or vPvB.

12.6. Other adverse effects

Ozone : Not classified
Other adverse effects : No known effects from this product.
Effect on the ozone layer : None.
Effect on global warming : Contains greenhouse gas(es). When discharged in large quantities may contribute to the greenhouse effect.
GWP 100 years : 4

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste) : Disposal must be done according to official regulations. Regulation on Incineration of Waste Materials published in the Official Journal numbered 27721 on October 6, 2010. Waste Management Regulation published in the Official Journal numbered 29314 on April 2, 2015.

Waste treatment methods : Contact supplier if guidance is required. Do not discharge into areas where there is a risk of forming an explosive mixture with air. Waste gas should be flared through a suitable burner with flash back arrestor. Do not discharge into any place where its accumulation could be dangerous. Ensure that the emission levels from local regulations or operating permits are not exceeded. Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at <http://www.eiga.eu> for more guidance on suitable disposal methods. Return unused product in original cylinder to supplier.

Additional information : External treatment and disposal of waste should comply with applicable local and/or national regulations.

List of hazardous waste codes (from Commission Decision 2000/532/EC as amended) : 16 05 04 *: Gases in pressure containers (including halons) containing hazardous substances.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
1011	1011	1011	Not applicable	Not applicable
14.2. UN proper shipping name				
BUTANE	BUTANE	Butane	Not applicable	Not applicable
Transport document description				
UN 1011 BUTANE, 2.1, (B/D)	UN 1011 BUTANE, 2.1	UN 1011 Butane, 2.1	Not applicable	Not applicable
14.3. Transport hazard class(es)				
2.1	2.1	2.1	Not applicable	Not applicable






N-BUTANE

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Date of issue: 25/03/2019 Version: 1.0

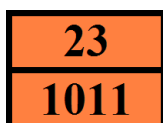
ADR	IMDG	IATA	ADN	RID
			Not applicable	Not applicable
14.4. Packing group				
Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No
No supplementary information available				

14.6. Special precautions for user

Special transport precautions : Avoid transport on vehicles where the load space is not separated from the driver's compartment, Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency, Before transporting product containers:
- Ensure there is adequate ventilation, - Ensure that containers are firmly secured, - Ensure cylinder valve is closed and not leaking, - Ensure valve outlet cap nut or plug (where provided) is correctly fitted, - Ensure valve protection device (where provided) is correctly fitted.

- Overland transport

Classification code (ADR) : 2F
Special provisions (ADR) : 652, 660, 657, 662
Limited quantities (ADR) : 0
Excepted quantities (ADR) : E0
Packing instructions (ADR) : P200
Mixed packing provisions (ADR) : MP9
Portable tank and bulk container instructions (ADR) : (M), T50
Tank code (ADR) : PxBN(M)
Tank special provisions (ADR) : TA4, TT9
Vehicle for tank carriage : FL
Transport category (ADR) : 2
Special provisions for carriage - Loading, unloading and handling (ADR) : CV9, CV10, CV36
Special provisions for carriage - Operation (ADR) : S2, S20
Hazard identification number (Kemler No.) : 23
Orange plates :



Tunnel restriction code (ADR) : B/D

- Transport by sea

Limited quantities (IMDG) : 0
Excepted quantities (IMDG) : E0
Packing instructions (IMDG) : P200
Tank instructions (IMDG) : T50
EmS-No. (Fire) : F-D
EmS-No. (Spillage) : S-U
Stowage category (IMDG) : E
Stowage and handling (IMDG) : SW2
Properties and observations (IMDG) : Flammable hydrocarbon gas. Explosive limits: 1.8% to 8.4% Heavier than air (2.11).
MFAG-No : 115

- Air transport

PCA Excepted quantities (IATA) : E0
PCA Limited quantities (IATA) : Forbidden



N-BUTANE

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Date of issue: 25/03/2019 Version: 1.0

PCA limited quantity max net quantity (IATA)	: Forbidden
PCA packing instructions (IATA)	: Forbidden
PCA max net quantity (IATA)	: Forbidden
CAO packing instructions (IATA)	: 200
CAO max net quantity (IATA)	: 150kg
ERG code (IATA)	: 10L

- Inland waterway transport

No data available

- Rail transport

No data available

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

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

15.1.1. National regulations

Local regulations (Turkey)	: Regulation on Health and Safety Precautions When Working with Carcinogenic and Mutagenic Substances published in the Official Journal numbered 28730 on August 6, 2013 Regulation on Health and Safety Precautions When Working with Chemical Substances published in the Official Journal numbered 28733 on August 12, 2013 Personal Protective Equipment Regulation published in the Official Journal numbered 26361 on November 29, 2006 Regulation on Use of Personal Protective Equipments in Workplaces published in the Official Journal numbered 28695 on July 2, 2013 Aerosol Containers Regulation published in the Official Journal numbered 24246 on November 30, 2000 Regulation on Transportation of Dangerous Goods by Road published in the Official Journal numbered 28801 on October 24, 2013 Simple Pressurized Containers Regulation published in the Official Journal numbered 29877 on November 3, 2016.
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This product doesn't contain any substances that is controlled or prohibited for use according to the Regulation for Reduction of Ozone Depleting Substances published in the Official Journal numbered 27052 on November 12, 2008.

Restrictions on use : None.

SECTION 16: Other information

Abbreviations and acronyms:

	ATE - Acute Toxicity Estimate
	CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
	REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
	EINECS - European Inventory of Existing Commercial Chemical Substances
	CAS# - Chemical Abstract Service number
	LC50 - Lethal Concentration to 50 % of a test population
	RMM - Risk Management Measures
	PBT - Persistent, Bioaccumulative and Toxic
	vPvB - Very Persistent and Very Bioaccumulative
	STOT- SE : Specific Target Organ Toxicity - Single Exposure
	CSA - Chemical Safety Assessment
	EN - European Standard
	UN - United Nations
	ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
	IATA - International Air Transport Association
	IMDG code - International Maritime Dangerous Goods
	RID - Regulations concerning the International Carriage of Dangerous Goods by Rail
	WGK - Water Hazard Class
	STOT - RE : Specific Target Organ Toxicity - Repeated Exposure



N-BUTANE

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Date of issue: 25/03/2019 Version: 1.0

Data sources : Classification according to Classification, Labelling and Packaging of Substances and Mixtures (SEA) Regulation published in the Official Journal numbered 28848 on December 11, 2013.

Training advice : Ensure operators understand the flammability hazard.

Other information : Classification using data from databases maintained by the European Industrial Gases Association (EIGA).

Full text of H-statements

Flam. Gas 1	Flammable gases, Category 1
Press. Gas (Liq.)	Gases under pressure : Liquefied gas
H220	Extremely flammable gas.
H280	Contains gas under pressure; may explode if heated.

Safety Data Sheet author's

Name : Ezgi Üstün

Certificate number : NBC 01.77.03

Certificate valid until : 28/03/2019

Contact information : eustun@koyuncutas.com

SDS Turkey

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.