

# Safety Data Sheet

## PROPANE

Revision date : 2014/11/12  
Version: 1.1

Page: 1/10  
(30,091,368/SDS\_GEN\_US/EN)

### 1. Identification

#### Product identifier used on the label

## PROPANE

#### Recommended use of the chemical and restriction on use

Recommended use\*: Intermediate; for industrial use only

\* 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: C3 H8  
Chemical family: hydrocarbons  
Synonyms: Propane

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### 2. Hazards Identification

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

#### Classification of the product

Press. Gas	Compr. Gas	Gases under pressure
Flam. Gas	1	Flammable gases
Simple Asphyxiant	Simple Asphyxiant (1)	Simple Asphyxiant

#### Label elements

Pictogram:

# Safety Data Sheet

## PROPANE

Revision date : 2014/11/12  
Version: 1.1

Page: 2/10  
(30,091,368/SDS\_GEN\_US/EN)



Signal Word:  
Danger

Hazard Statement:

H280 Contains gas under pressure; may explode if heated.  
H220 Extremely flammable gas.  
H220 May displace oxygen and cause rapid suffocation.

Precautionary Statements (Prevention):

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

Precautionary Statements (Response):

P377 Leaking gas fire: Do not extinguish, unless leak can be stopped safely.  
P381 Eliminate all ignition sources if safe to do so.

Precautionary Statements (Storage):

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

### 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.

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

#### Emergency overview

DANGER:

EXTREMELY FLAMMABLE.

FLAMMABLE GAS. MAY CAUSE FLASH FIRE OR EXPLOSION.

SKIN CONTACT MAY RESULT IN FROSTBITE.

MAY REPLACE OXYGEN AND CAUSE ASPHYXIATION.

CAN CAUSE CENTRAL NERVOUS SYSTEM DAMAGE.

CONTAINS MATERIAL WHICH CAN CAUSE CARDIAC OR CARDIOVASCULAR DAMAGE.

Use with local exhaust ventilation.

Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator.

Wear NIOSH-certified chemical goggles.

Wear protective clothing.

Eye wash fountains and safety showers must be easily accessible.

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

### 3. Composition / Information on Ingredients

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

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
74-98-6	>= 97.0 %	propane
115-07-1	>= 1.0 - <= 3.0 %	propene

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

<u>CAS Number</u>	<u>Content (W/W)</u>	<u>Chemical name</u>
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# Safety Data Sheet

## PROPANE

Revision date : 2014/11/12  
Version: 1.1

Page: 3/10  
(30,091,368/SDS\_GEN\_US/EN)

74-98-6	> 97.0 %	propane
115-07-1	>= 1.0 - <= 3.0 %	propene

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### 4. First-Aid Measures

#### Description of first aid measures

##### General advice:

Remove contaminated clothing.

##### If inhaled:

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.

##### If on skin:

Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

##### If in eyes:

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. If irritation develops, seek medical attention.

##### If swallowed:

No hazards anticipated.

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

Symptoms: Overexposure may cause:, unconsciousness, asphyxia, difficulty breathing, headache, dizziness

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

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### 5. Fire-Fighting Measures

#### Extinguishing media

Suitable extinguishing media:  
water spray, carbon dioxide, foam

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

Hazards during fire-fighting:  
Aerosol container contains flammable gas under pressure. Keep away from heat, spark, and open flames.

#### Advice for fire-fighters

Protective equipment for fire-fighting:  
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear. Wear a positive pressure supplied-air respirator.

#### Further information:

Vapours are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition. If exposed to fire, keep containers cool by spraying with water. Fight fire from maximum distance. Firefighting should be done from explosion resistant locations.

# Safety Data Sheet

## PROPANE

Revision date : 2014/11/12

Version: 1.1

Page: 4/10

(30,091,368/SDS\_GEN\_US/EN)

---

### 6. Accidental release measures

#### Personal precautions, protective equipment and emergency procedures

Remove persons to safety. Extinguish sources of ignition nearby and downwind. Isolate until gas has dispersed. Ensure adequate ventilation. Wind direction should be noted.

#### Environmental precautions

Discharge into the environment must be avoided.

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

Allow to evaporate. Ensure adequate ventilation.

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### 7. Handling and Storage

#### Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Avoid all sources of ignition: heat, sparks, open flame.

Protection against fire and explosion:

When containers are opened, extremely flammable gases may be released. Avoid all sources of ignition: heat, sparks, open flame.

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

Further information on storage conditions: Keep away from sources of ignition - No smoking. Keep in a cool, well-ventilated place.

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### 8. Exposure Controls/Personal Protection

#### Components with occupational exposure limits

propane	OSHA PEL	PEL 1,000 ppm 1,800 mg/m <sup>3</sup> ; TWA value 1,000 ppm 1,800 mg/m <sup>3</sup> ;
	ACGIH TLV	; Included in the regulation, but with no data values - See the regulation for further details

propene	ACGIH TLV	TWA value 500 ppm ;
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#### 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. Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination. For emergency or non-routine, high exposure situations, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

# Safety Data Sheet

## PROPANE

Revision date : 2014/11/12  
Version: 1.1

Page: 5/10  
(30,091,368/SDS\_GEN\_US/EN)

### Hand protection:

Wear cold-resistant protective gloves.

### Eye protection:

Tightly fitting safety goggles (chemical goggles).

### General safety and hygiene measures:

Work place should be equipped with a shower and an eye wash. Wear protective clothing as necessary to prevent contact. Avoid inhalation of vapours/mists.

## 9. Physical and Chemical Properties

Form:	gas	
Odour:	odourless	
Colour:	colourless	
pH value:		The substance does not dissociate.
Melting point:	-187.6 °C	( 1,013 hPa) Literature data.
Boiling point:	-42.1 °C	( 1,013 hPa) Literature data.
Flash point:	-104 °C	Literature data.
	-98.6 °C	
Flammability:	Extremely flammable.	
Lower explosion limit:	2.1 %(V)	(air) Literature data.
Upper explosion limit:	9.5 %(V)	(air) Literature data.
Autoignition:	450 °C	
Vapour pressure:		Study scientifically not justified.
Density:	0.493 g/cm <sup>3</sup>	( 25 °C, approx. 9,500 hPa) Literature data.
Vapour density:	1.55	( 0 °C) Literature data., Heavier than air.
Partitioning coefficient n-octanol/water (log Pow):	1.81	(calculated) Study scientifically not justified.
Self-ignition temperature:	20 °C	not self-igniting
Viscosity, dynamic:	0.008 mPa.s	( 27 °C)
Particle size:		The substance / product is marketed or used in a non solid or granular form.
Solubility in water:	70 mg/l	( 20 °C, 1,013 hPa)
Molar mass:	44.10 g/mol	

## 10. Stability and Reactivity

### Reactivity

Corrosion to metals:  
No corrosive effect on metal.

### Oxidizing properties:

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

Formation of flammable gases:	Information on hazardous decomposition products:	Forms no flammable gases in the presence of water.
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### Chemical stability

# Safety Data Sheet

## PROPANE

Revision date : 2014/11/12  
Version: 1.1

Page: 6/10  
(30,091,368/SDS\_GEN\_US/EN)

### Possibility of hazardous reactions

Formation of explosive gas/air mixtures.

### Conditions to avoid

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

### Incompatible materials

Oxygen, chlorine, fluorine, oxidizing agents, strong acids

### Hazardous decomposition products

Decomposition products:

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

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## 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

Assessment of acute toxicity: Virtually nontoxic by inhalation.

#### Oral

Study not necessary due to exposure considerations.

#### Inhalation

Type of value: LC50

Species: rat (male/female)

Value: > 1,440 mg/l

Exposure time: 15 min

Literature data.

#### Dermal

Study not necessary due to exposure considerations.

#### Irritation / corrosion

Assessment of irritating effects: Not irritating to the skin. Not irritating to the eyes. Contact with liquid may cause frostbite.

#### Skin

Study not necessary due to exposure considerations.

#### Eye

Study not necessary due to exposure considerations.

#### Sensitization

Assessment of sensitization: The chemical structure does not suggest a sensitizing effect.

Study not necessary due to exposure considerations.

### Chronic Toxicity/Effects

# Safety Data Sheet

## PROPANE

Revision date : 2014/11/12  
Version: 1.1

Page: 7/10  
(30,091,368/SDS\_GEN\_US/EN)

---

### Repeated dose toxicity

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

### Genetic toxicity

Assessment of mutagenicity: No mutagenic effect was found in various tests with bacteria and mammalian cell culture. The substance was not mutagenic in a test with mammals.  
Genetic toxicity in vitro: OECD Guideline 473 Chromosomal Aberration Test negative

### Carcinogenicity

Assessment of carcinogenicity: No data was available concerning carcinogenic activity. 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.

### Teratogenicity

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

## Symptoms of Exposure

Overexposure may cause:., unconsciousness, asphyxia, difficulty breathing, headache, dizziness

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## 12. Ecological Information

### Toxicity

#### Aquatic toxicity

Assessment of aquatic toxicity:  
Due to the product characteristics the test is impossible.

#### Toxicity to fish

LC50 (96 h) 15 mg/l, Fish (calculated)  
The product has not been tested. The statement has been derived from the structure of the product.

#### Aquatic invertebrates

EC50 (48 h) 16.5 mg/l, daphnia (calculated)  
The product has not been tested. The statement has been derived from the structure of the product.

#### Chronic toxicity to fish

Study does not need to be conducted.

#### Chronic toxicity to aquatic invertebrates

Study does not need to be conducted.

#### Assessment of terrestrial toxicity

Study scientifically not justified.

## Microorganisms/Effect on activated sludge

### Toxicity to microorganisms

Study scientifically not justified.

# Safety Data Sheet

## PROPANE

Revision date : 2014/11/12  
Version: 1.1

Page: 8/10  
(30,091,368/SDS\_GEN\_US/EN)

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### Persistence and degradability

Assessment biodegradation and elimination (H<sub>2</sub>O)  
Readily biodegradable (according to OECD criteria).

#### Elimination information

100 % Specific analysis (385.5 h) (Specific analysis) (aerobic, Seawater)  
Analogous: Assessment derived from products with similar chemical character.

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

### Bioaccumulative potential

Bioaccumulation potential  
No significant accumulation in organisms is expected as a result of the distribution coefficient of n-octanol/water (log Pow).

### Mobility in soil

Assessment transport between environmental compartments  
Study scientifically not justified.

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## 13. Disposal considerations

**Waste disposal of substance:**  
Observe national and local legal requirements.

**Container disposal:**  
Return empty or unusable containers to supplier.

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## 14. Transport Information

### Land transport

USDOT

Hazard class: 2.1  
ID number: UN 1978  
Hazard label: 2.1  
Proper shipping name: PROPANE

### Sea transport

IMDG

Hazard class: 2.1  
ID number: UN 1978  
Hazard label: 2.1  
Marine pollutant: NO  
Proper shipping name: PROPANE

### Air transport

IATA/ICAO

Hazard class: 2.1  
ID number: UN 1978  
Hazard label: 2.1



# Safety Data Sheet

## PROPANE

Revision date : 2014/11/12  
Version: 1.1

Page: 9/10  
(30,091,368/SDS\_GEN\_US/EN)

Proper shipping name: PROPANE

### 15. Regulatory Information

#### Federal Regulations

##### Registration status:

Chemical TSCA, US released / listed

**EPCRA 311/312 (Hazard categories):** Fire; Sudden release of pressure; Acute

<u>CERCLA RQ</u>	<u>CAS Number</u>	<u>Chemical name</u>
100 LBS	74-98-6; 115-07-1	propane; propene

#### State regulations

<u>State RTK</u>	<u>CAS Number</u>	<u>Chemical name</u>
MA, NJ, PA	74-98-6	propane
MA, NJ, PA	115-07-1	propene

##### NFPA Hazard codes:

Health : 2      Fire: 4      Reactivity: 0      Special:

##### HMIS III rating

Health: 2      Flammability: 4      Physical hazard: 0

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

Flam. gases (incl. chem. unstable gases)	1	Flammable gases (including chemically unstable gases)
Press. Gas	Compr. Gas	Gases under pressure

### 16. Other Information

#### SDS Prepared by:

BASF NA Product Regulations  
SDS Prepared on: 2014/11/12

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.

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO

# Safety Data Sheet

## PROPANE

Revision date : 2014/11/12

Page: 10/10

Version: 1.1

(30,091,368/SDS\_GEN\_US/EN)

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