



## MATERIAL SAFETY DATA SHEET

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# Iso-Butane

**MSDS Number:** OKE005

**Issue Date:** 8/00

**Revision:** 7/09

### CHEMICAL PRODUCT AND COMPANY IDENTIFICATION - SECTION 1

**Company Identification:** ONEOK, Inc.  
100 West Fifth Street  
Tulsa, OK 74103

#### FOR CHEMICAL EMERGENCY, SPILL, LEAK, FIRE, EXPOSURE, OR ACCIDENT:

**Call Chemtrec:** (800) 424-9300

**For additional non-emergency information, call:** (888) 417-6275

**Product Name:** Iso-Butane

**Synonym(s):** I-Grade; Iso; 2-methylpropane;  
1,1-dimethylethane

**CAS Number:** 75-28-5

**Chemical Formula:** C<sub>4</sub>H<sub>10</sub>

### HAZARDS IDENTIFICATION - SECTION 2

Colorless gas with a faint, disagreeable odor.

Severe explosion and fire hazard. Vapors or gases may ignite at distant ignition sources and flash back.

Contact with rapidly expanding gases or liquids can cause frostbite.

This material is classified as hazardous under OSHA regulations.

The following information summarizes human experience and results of scientific investigations reviewed by health professionals for hazard evaluation of and development of Precautionary Measures and Occupational Control Procedures recommended in this document.

**Primary Route of Entry:** Dermal contact, eye contact, and inhalation.

**Medical Conditions Which Might be Aggravated:** Central nervous system disorders.

#### **Acute Exposure Effects:**

- 1. Skin:** Blisters, frostbite.
- 2. Eyes:** Frostbite, blurred vision, eye damage.
- 3. Inhalation:** Simple asphyxiant, may cause nausea, vomiting, dizziness, tingling sensation, suffocation, convulsions, or coma.
- 4. Ingestion:** Frostbite, although this product is a gas under normal atmospheric conditions and ingestion is unlikely.

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## COMPOSITION/INFORMATION ON INGREDIENTS - SECTION 3

<u>Chemical Name</u>	<u>CAS Number</u>	<u>% By Weight</u>
Iso-Butane	75-28-5	95-100
n-Butane	106-97-8	0-5
Propane	74-98-6	0-3

**Note:** These analytical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

## FIRST AID MEASURES - SECTION 4

**Skin:** Wash skin with plenty of soap and water for several minutes. In case of cold burn, immediately place affected area in warm water (105° F) and keep at this temperature until circulation returns. Get medical attention. If clothing becomes wet, drench individual with water and remove contaminated clothing if possible. Slowly warm affected area of skin.

**Eyes:** In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if eye irritation persists.

**Inhalation:** If irritation, headache, nausea, or drowsiness occurs, remove to fresh air. Get medical attention if breathing becomes difficult or respiratory irritation persists.

**Ingestion:** No emergency care anticipated.

## FIRE FIGHTING MEASURES - SECTION 5

**Flash Point:** -76° F (-60° C)

**Method:** Closed Cup

**Auto ignition Temperature:** 549° F (287° C)

**Method:** Not Known

**Combustibility:** Not Known

**Method:** N/A

**Flammable Limits in Air, % by Volume:** LEL: 1.9%

UEL: 8.5%

**Extinguishing Media:** Carbon dioxide, regular dry chemical, water fog.

**Special Fire Fighting Procedures:** Cool cylinders/pipeline and surroundings with water from a suitable distance. Excessive pressure may develop if exposed to fire, which may result in explosion, regardless of the content. Firefighters should wear proper protective equipment and a positive pressure self-contained breathing apparatus.

**Unusual Fire and Explosive Hazards:** Severe explosion and fire hazard. Vapor/air mixtures are explosive. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back.

## ACCIDENTAL RELEASE MEASURES - SECTION 6

Avoid heat, flames, sparks and other sources of ignition. Do not touch spilled material. Stop leak if possible without personal risk. Reduce vapors with water spray. Keep unnecessary people away, isolate hazard area and deny entry. Remove sources of ignition. Ventilate closed spaces before entering.

## HANDLING AND STORAGE - SECTION 7

Store and handle in accordance with all current regulations and standards. Subject to storage regulations: OSHA 1910.101. Grounding and bonding required. Keep separated from incompatible substances.

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## EXPOSURE CONTROLS/PERSONAL PROTECTION - SECTION 8

<u>Chemical Name</u>	<u>OSHA PEL (ppm)</u>	<u>ACGIH TLV (ppm)</u>	<u>Other</u>
Iso-Butane	None	800	Narcosis, Asphyxiant
n-Butane	None	800	Narcosis, Asphyxiant
Propane	1000	1000	2100 ppm IDLH

**Eye Protection:** Wear safety glasses or when using a respirator make sure the mask provides splash and impact protection.

**Skin Protection:** Wear appropriate gloves.

**Respiratory Protection:** Positive pressure, full face, air supplied respirator should be used for work within a confined space.

**Ventilation:** Ensure oxygen content is greater than 18%.

## PHYSICAL AND CHEMICAL PROPERTIES - SECTION 9

**Appearance:** Colorless gas with a faint, disagreeable odor.

**Specific Gravity:** 0.579 (Water = 1)

**Flash Point:** -76° F (-60° C)

**Auto ignition Temperature:** 549° F (287° C)

**Flammable Limits in Air, % by Volume:** LEL: 1.9% UEL: 8.5%

**Solubility in Water (wt. %):** 15%

**Solubility in Other Solvents:** Hydrocarbons, alcohol, ether

**Note:** These physical data are typical values based on material tested but may vary from sample to sample. Typical values should not be construed as a guaranteed analysis of any specific lot or as specifications for the product.

## STABILITY AND REACTIVITY - SECTION 10

**Stability:** Stable under normal conditions.

**Incompatibility:** Oxidizing materials.

**Hazardous Decomposition Products:** Oxides of carbon.

**Hazardous Polymerization:** Polymerization will not occur.

## TOXICOLOGICAL INFORMATION - SECTION 11

**Toxicity:** Inhalation, Rat, LC<sub>50</sub>, 658 gm/m<sup>3</sup>/4H Inhalation, Mouse, LC<sub>50</sub>, 680 gm/m<sup>3</sup>/4H

**Teratogenicity:** Not established

**Reproductive Toxicity:** Not established

**Mutagenicity:** Not established

**Synergistic Products:** Not established

**Sensitization to Product:** Not established

**Carcinogenicity:** Contains > 0.1% by weight of a material listed as a potential carcinogen by:

**NTP**  
No

**IARC**  
No

**OSHA**  
No

**Other Chronic Effects:** Not Determined

**Signs and Symptoms of Overexposure:** May cause nausea, vomiting, dizziness or tingling sensation.

## ECOLOGICAL INFORMATION - SECTION 12

No data is available on the adverse effects of this material on the environment. Neither COD nor BOD data are available.

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## DISPOSAL CONSIDERATIONS - SECTION 13

Dispose of container and unused contents in accordance with federal, state and local requirements.

## TRANSPORT INFORMATION - SECTION 14

### DOT

**Proper Shipping Name:** Iso-Butane

**Hazard Class/I.D. No./Packing Group:** 2.1, UN 1969

**Label:** Flammable Gas

or

**Proper Shipping Name:** Petroleum Gases, Liquefied

**Hazard Class/I.D. No./Packing Group:** 2.1, UN 1075

**Label:** Flammable Gas

### I.M.O.

**Proper Shipping Name:** Butane

**Hazard Class/I.D. No./Packing Group:** 2.1, UN 1011

**Label:** Flammable Gas

### I.C.A.O./I.A.T.A.

**Proper Shipping Name:** Butane

**Hazard Class/I.D. No./Packing Group:** 2, UN 1011

**Label:** Flammable Gas

## REGULATORY INFORMATION - SECTION 15

**TSCA Inventory:** Yes

**Reportable Quantity (RQ) Under US EPA CERCLA Regulations:** Not listed

**SARA Hazard Notification Hazard Categories Under Criteria of SARA Title III Rules (40 CFR Part 370):** Yes

**Section 313 Toxic Chemical(s):** No

**Hazardous Chemical(s) Under OSHA Hazard Communication Standard:** Yes

## OTHER INFORMATION - SECTION 16

### Hazard Ratings:

#### NFPA

Health -- 1

Fire -- 4

Reactivity -- 0

Specific Hazard -- N/A

#### HMIS

Health -- 1

Flammability -- 4

Reactivity -- 0

PPE -- N/A

To the best of our knowledge, the information contained herein is accurate. However, neither ONEOK, Inc. nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.