

# SAFETY DATA SHEET



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**24-Hour Emergency Number (CHEMTREC)**

USA: 800-424-9300

International: 703-527-3887

All non-emergency numbers should be directed  
to Customer Service at 800-PURITY1

## OCTANE

SDS No. M0163

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name: Octane

Synonyms: n-Octane

Recommended Use: This product is recommended for laboratory and manufacturing use only. It is not recommended for drug, food or household use.

### 2. HAZARDS IDENTIFICATION



**Classification:**

Flammable Liquids: GHS Category 2

Skin Irritation: GHS Category 2

Specific Target Organ Toxicity for single exposure: GHS Category 3

Aspiration Hazard: GHS Category 1

Acute Aquatic Toxicity: GHS Category 1

Chronic Aquatic Toxicity: GHS Category 1

**Label Elements**

Signal Word: DANGER!

Hazard Statements:

H225 – Highly flammable liquid and vapor.

H304 – May be fatal if swallowed and enters airways.

H315 – Causes skin irritation.

H336 – May cause drowsiness and dizziness.

H410 – Very toxic to aquatic life with long lasting effects.

Precautionary Statements:

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

P243 – Take precautionary measures to avoid static discharge.

P273 – Avoid release to the environment.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P301+P310 – IF SWALLOWED: Immediately call a POISON CENTER/doctor.

P303+P361+P353 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

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P304+P340+P312 – IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.  
 P331 – Do NOT induce vomiting.  
 P332+P313 – If skin irritation occurs: Get medical advice/ attention.  
 P362 – Take off contaminated clothing and wash before reuse.  
 P370+P378 – In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.  
 P391 – Collect spillage.  
 P403+P233 – Store in a well-ventilated place. Keep container tightly closed.  
 P403+P235 – Store in a well-ventilated place. Keep cool.  
 P405 – Store locked up.  
 P501– Dispose of contents/ container to an approved waste disposal plant.

### **Emergency Overview**

Causes eye, skin, and respiratory tract irritation. Breathing vapors may cause drowsiness or dizziness. Aspiration hazard. Highly flammable liquid and vapor! Vapor may cause flash fire. Target Organs: Central nervous system

### HMIS Rating:

Health – 2 Flammability – 3 Physical Hazard – 0 PPE – User supplied

NOTE: HMIS ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. These ratings are based on the inherent properties of this chemical under expected conditions of normal use and are not intended to be used in emergency situations. PPE is determined by the user based on their needs and conditions.

## **3. COMPOSITION AND INFORMATION ON INGREDIENTS**

<u>Ingredient</u>	<u>CAS No</u>	<u>Percent</u>	<u>Hazardous</u>
Octane	111-65-9	<97%	Yes

## **4. FIRST-AID MEASURES**

Inhalation: If inhaled, remove to fresh air. If breathing is labored or with coughing, give supplemental oxygen. If not breathing, begin artificial respiration. Get medical aid.

Ingestion: Aspiration hazard. Get medical aid. Do not induce vomiting unless directed by medical personnel. If vomiting begins naturally, have victim lean forward. Never give anything by mouth to an unconscious person. If not breathing, begin artificial respiration.

Skin Contact: Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops and persists. Wash clothing and clean shoes before reuse.

Eye Contact: Check for and remove contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Notes to Physician: Treat symptomatically and supportively.

## **5. FIRE FIGHTING MEASURES**

Flammability: Highly flammable liquid and vapor (GHS Category 2)

Auto-ignition Temperature: 206° C (402° F)

Flash Point: 13° C (55° F)

Flammable Limits: Lower Limit – 1.0 vol %, Upper Limit – 6.5 vol %

Products of Combustion: Will decompose into highly toxic and irritating gases (carbon monoxide and carbon dioxide) under fire conditions.

Specific Fire Hazards: As in any fire, always wear self-contained breathing apparatus in pressure-demand (MSA/NIOSH approved or equivalent), and full protective gear. Use water spray to keep fire exposed containers cool. Approach fire from upwind to avoid hazardous vapors and toxic decomposition products. May accumulate static electrical charges, and may cause ignition of its own vapors. Vapors are heavier than air and may travel to a source of ignition and flash back. Vapors

can spread along the ground and collect in low or confined areas. This liquid floats on water and may travel to a source of ignition and spread fire.

Specific Explosion Hazards: None

Fire Fighting Media: Use foam, dry chemical, or carbon dioxide. Water may be ineffective. Water may spread fire.

National Fire Protective Association: Health - 2, Flammability - 3, Reactivity - 0

NOTE: NFPA ratings use a numbering scale that ranges from 0 - 4 to indicate the degree of hazard. A value of zero means the chemical presents no hazard while a value of four indicates a high hazard. They are for use by emergency personnel to address the hazards that are presented by short term, acute exposure to this product under fire, spill, or similar emergencies. Ratings involve data and interpretations that may vary from company to company.

## 6. ACCIDENTAL RELEASE MEASURES

Absorb spilled liquid with sorbent pads, socks, or other inert material such as vermiculite, sand, or earth. Provide ventilation to the affected area and remove all ignition sources. Avoid run-off into storm sewers and ditches that lead to waterways. Approach the spill from upwind and pick up absorbed material and place it in a suitable container. Use only non-sparking tools and equipment. A vapor suppressing foam may be used. Always use proper personal protective equipment as described in section 8.

## 7. HANDLING AND STORAGE

Precautions: Always use proper personal protective equipment as described in section 8. Wash thoroughly after handling. Ground and bond containers when transferring material. Avoid contact with eyes, skin, and clothing. Remove contaminated clothing and wash before reuse. Empty containers contain product residue (liquid and vapor) and can be dangerous. Keep container tightly closed and away from heat, spark, and flame. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks, or open flames. Use with adequate ventilation. Avoid breathing vapor.

Storage: Keep in a flammables area away from all sources of ignition and oxidizing materials. Keep in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls: Use explosion-proof ventilation equipment. Facilities storing or using the material should be equipped with eyewash station and a safety shower. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits.

Personal Protection: Wear protective chemical goggles or appropriate eye protection. Use appropriate gloves and protective clothing to prevent skin exposure. A respiratory protection program that meets OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever possible. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

Exposure Limits:

ACGIH – 300 ppm TWA

NIOSH – 75 ppm TWA; 350 mg/m<sup>3</sup> TWA 1000 ppm IDLH

OSHA Final PELs – 500 ppm TWA; 2350 mg/m<sup>3</sup> TWA

OSHA Vacated PELs - 300 ppm TWA; 1450 mg/m<sup>3</sup> TWA

## 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State and Appearance: Clear, colorless liquid.

Odor: Mild, gasoline-like odor

Odor Threshold: 150 ppm

Molecular Formula: CH<sub>3</sub>(CH<sub>2</sub>)<sub>6</sub>CH<sub>3</sub>

Molecular Weight: 114.23

Auto-ignition Temperature: 206° C (402° F)

Flash Point: 13° C (55° F)

Flammable Limits: Lower Limit – 1.0 vol %, Upper Limit – 6.5 vol %

pH: Not available

Boiling Point: 124-126° C

Freezing/Melting Point: -57° C

Decomposition Temperature: Not available

Specific Gravity: 0.708 g/cm<sup>3</sup> @ 20°C

Evaporation Rate: 0.6 (n-Butyl acetate = 1)

Vapor Density (Air=1): 3.9

Vapor Pressure: 11 mm Hg @ 25° C

Viscosity: Not available

Solubility: Insoluble

## 10. STABILITY AND REACTIVITY

Stability: Stable at room temperatures in closed containers under normal temperatures and pressures.

Conditions to Avoid: Ignition sources, excess heat.

Incompatibility With Various Substances: Strong oxidizing agents, strong acids.

Hazardous Decomposition Products: Carbon monoxide, carbon dioxide.

Hazardous Polymerization: Has not been reported.

## 11. TOXICOLOGICAL INFORMATION

Routes of Entry: Inhalation, skin absorption, skin contact

Acute Exposure Hazards:

INHALATION HAZARD: Causes respiratory tract irritation. May cause narcotic effects in high concentration.

INGESTION HAZARD: May cause central nervous system depression, characterized by excitement, followed by headache, dizziness, drowsiness, and nausea. Advanced stages may cause collapse, unconsciousness, coma and possible death due to respiratory failure. Aspiration of material into the lungs may cause chemical pneumonitis, which may be fatal.

SKIN CONTACT HAZARD: Causes skin irritation. May be absorbed through the skin in harmful amounts.

EYE CONTACT HAZARD: Causes eye irritation.

Chronic Exposure Hazards: Prolonged or repeated skin contact may cause defatting or dermatitis.

Animal Toxicity:

Inhalation, rat: LC50 = 118 gm/m<sup>3</sup>/4H;

Carcinogenicity: Not listed as a carcinogen by ACGIH, IARC, NTP, or CA Prop 65

Epidemiology: No information found.

Teratogenicity: No information found.

Reproductive Effects: No information found.

Mutagenicity: No information found.

Neurotoxicity: No information found.

## 12. ECOLOGICAL INFORMATION

Ecotoxicity:

Water flea EC50 = 0.38 mg/L; 48 Hr.; Unspecified Conditions

Bacteria: Phytobacterium phosphoreum: EC50 = 890 mg/L; 30 minutes; Microtox test No data available.

Environmental Fate: Aquatic: Photolysis or hydrolysis of n-octane in aquatic systems is not expected to be important. The biodegradation of n-octane may occur in aquatic environments; however volatilization and adsorption are expected to be far more important fate processes. The log bioconcentration factor (log BCF) for n-octane has been estimated to range from 2.89 to 3.71 suggesting bioconcentration may be an important factor in aquatic systems. An estimated range for Koc from 5500 to 15,600 indicates n-octane will strongly adsorb to carbon.

## 13. DISPOSAL CONSIDERATIONS

Material that cannot be saved for recovery or recycling should be managed in an appropriate and approved waste facility. Processing, usage or contamination of this product may change the waste management options. Waste generators must

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decide if discarded material is a hazardous waste. State and local disposal regulations may differ from federal disposal definitions found in 40 CFR 261.3. Dispose of container and unused contents in accordance with federal, state and local requirements.

#### 14. TRANSPORT INFORMATION

##### US DOT

Proper Shipping Name: Octanes

Hazard Class: 3

UN Number: UN1262

Packing Group: II

##### IMDG

Proper Shipping Name: Octanes

Hazard Class: 3

UN Number: UN1262

Packing Group: II

##### IATA

Proper Shipping Name: Octanes

Hazard Class: 3

UN Number: UN1262

Packing Group: II

#### 15. REGULATORY INFORMATION

##### US Federal Regulations:

CERCLA Hazardous Substances: CAS# 111-65-9 is not listed.

SARA Section 302: Does not have a TPQ

SARA Codes: CAS# 111-65-9 – immediate, fire

Section 313: Octane (CAS# 111-65-9) is not subject to SARA Title III Section 313 and 40 CFR 373 reporting requirements.

OSHA: Not considered highly hazardous by OSHA.

##### US State Regulations:

CAS# 111-65-9 is on the following state right-to-know lists: New Jersey, Pennsylvania, and Massachusetts

California Prop 65: This product contains no chemicals known to the State of California to cause cancer, birth defects, or any other reproductive harm.

#### 16. OTHER INFORMATION

Originally Prepared: 10/24/2006

Last Revised: 07/23/2020 – Updated precautionary statements in Section 2.

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