

# SAFETY DATA SHEET



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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 4

**Label Elements**

Signal Word: DANGER!

Hazard Statements:

H225 – Highly flammable liquid and vapor.

H305 – .May be harmful if swallowed and enters airways.

H315 – Causes skin irritation.

H320 – Causes eye irritation.

H335 – may cause respiratory irritation.

H336 – May cause drowsiness and dizziness.

Precautionary Statements:

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

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

P303+P361+P353 – If on skin or hair: Remove/take off immediately all contaminated clothing. Rinse skin with water/shower.

Clear focus. Consistent results. Complete confidence.

## 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 – 1\* 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 - 1, 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.

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 absorb 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, use or contamination of this product may change the waste management options. Waste generators must 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, IATA, IMO

Proper Shipping Name: Octanes

Hazard Class: 3

UN Number: UN1262

Packing Group: II

Canada TDG

Additional Information: Flashpoint 13 C

**15. REGULATORY INFORMATION**US Federal Regulations:

TSCA: CAS# 111-65-9 is listed on the TSCA Inventory.

Health and Safety Reporting List: CAS# 111-65-9 is not listed.

Chemical Test Rules: CAS# 111-65-9 is not listed.

Section 12b: CAS# 111-65-9 is not listed.

TSCA Significant New Use Rule: Does not have an SNUR under TSCA.

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.

Clean Air Act: CAS# 111-65-9 is not listed as a hazardous air pollutant (HAP). It is not a Class 1 Ozone Depleter. It is not a Class 2 Ozone Depleter.

Clean Water Act: CAS# 111-65-9 is not listed as a Hazardous Substance. It is not a Priority Pollutant. It is not a Toxic Pollutant.

OSHA: Not considered highly hazardous by OSHA.

US State Regulations:

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

California Prop 65: California No Significant Risk Level: Not listed

Canada:

DSL/NDSL: CAS# 111-65-9 is listed on Canada's DSL list.

WHMIS: This product has a WHMIS classification of B2, D2B. This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and this MSDS contains all the information required by those regulations.

Ingredient Disclosure List: CAS# 111-65-9 is listed on Canada's Ingredient Disclosure List.

DSCL (EEC):

Hazard Symbols: Xn; F; N

Risk Phrases: R11 – Highly Flammable; R35 – Irritating to skin; R50/53 – Very toxic to aquatic organisms, May cause long term adverse effects in aquatic environments; R65 – Harmful, may cause lung damage if swallowed; R67 – Vapors may cause drowsiness and dizziness.

Safety Phrases: S9 – Keep container in well ventilated place; S16 – Keep away from sources of ignition-no smoking; S29 – Do not empty into drains; S33 – Take precautionary measures against static discharge; S60 – This material and container must be disposed of as hazardous waste; S61 – Avoid release to the environment, see special instructions/safety data sheets; S62 – If swallowed, do not induce vomiting. Seek medical advice immediately and show this label.

WGK (Water Danger/protection): CAS# 111-65-9: 1

**16. OTHER INFORMATION**

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