NOVA Chemicals®

Material Safety Data Sheet

Material Name: OCTYLENES™ Mixture of Octene Isomers

MSDS ID: NOVA-0108

Section 1 - Product and Company Identification

Synonyms: Octenes, mixed and octene/xylene
Chemical Name: Mixture
Chemical Family: Hydrocarbons
Product Use: Petrochemical industry: Raw material

NOVA Chemicals
P.O. Box 2518, Station M
Calgary, Alberta, Alberta T2P 5C6
Product Information: 1-412-490-4063
MSDS Information Email:
msdsemail@novachem.com

EMERGENCY Telephone Numbers:
North America (Canada and US):
1-800-424-9300 (CHEMTREC-USA) (24 hours)
1-613-996-6666 (Canutec-Canada) (24 hours)
Mexico and South America: +44 208 762 8322 (NCEC) (24 hours)

Section 2 - Hazards Identification

HMIS Ratings: Health: 2* **Fire:** 3 **Physical Hazard:** 0 **Personal Protection:** chemical goggles, gloves, respirator
*Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard*

NFPA Ratings: Health: 2 **Fire:** 3 **Reactivity:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

Emergency Overview

DANGER! FLAMMABLE. TOXIC. This product is a colorless liquid with a mild to distinct hydrocarbon odor. Vapor is heavier than air and may spread long distances. Distant ignition and flashback are possible. Flammable liquids and vapors can accumulate static charge. Product will float on water and may travel to distant locations and/or spread fire. This product is harmful by inhalation and may be fatal if swallowed. This product is irritating to the eyes and skin. Ingestion or excessive inhalation of this product may result in central nervous system effects including headache, sleepiness, dizziness, slurred speech, blurred vision and in extreme conditions coma and possibly death. Small amounts of this material, if aspirated into the lungs, may cause severe pulmonary injury and possibly death. Contains a component that is a reproductive toxin.

Potential Health Effects: Eye

This product is irritating to the eyes.

Potential Health Effects: Skin

This product is irritating to the skin. Prolonged and/or repeated skin contact with this product may cause irritation/dermatitis. A component (xylene) may be absorbed through intact skin. This product is not known to be a skin sensitizer.

Potential Health Effects: Ingestion

This product is harmful if swallowed. Ingestion of this product may result in nausea, diarrhea and central nervous system effects including headache, sleepiness, dizziness, loss of coordination, slurred speech, blurred vision and in extreme conditions coma and possibly death. Ingestion may cause liver and kidney damage. Small amounts of this product, if aspirated into the lungs may cause severe pulmonary injury (chemical pneumonitis).

Potential Health Effects: Inhalation

This product may be harmful by inhalation. Excessive inhalation of this product may result in nausea and central nervous system effects including headache, sleepiness, dizziness, loss of coordination, slurred speech, blurred vision, and in extreme conditions, coma and possibly death. Repeated inhalation of this product may result in bronchitis or other breathing problems and may damage liver, kidney, lungs and other internal organs. Based on animal testing, a component of this product (xylene) is considered to be a developmental toxin in Canada (birth defects). Small amounts of this product, if aspirated into the lungs, may cause severe pulmonary injury (chemical pneumonitis).

Section 3 - Composition/Information on Ingredients

CAS #	Component	Percent by Wt.
25377-83-7	Octene (mixed isomers)	45-70
25377-83-7	Octene (mixed isomers)	70-85
1330-20-7	Xylenes	10-30
1330-20-7	Xylenes	30-45
Mixture	Mixed C7 and C9 alkanes and alkenes	5-10

Additional Information

1-Octene (CAS # 111-66-0) is a major octene isomer component.
The actual components and weight % concentrations vary based on operating conditions.

This product is considered to be hazardous under 29 CFR 1910.1200 (Hazard Communication).
This material is a controlled product under Canadian WHMIS regulations.
This product is regulated as a hazardous material / dangerous goods for transportation.

See Section 8 for applicable exposure limits. See Section 11 for applicable toxicity data.

Section 4 - First Aid Measures

First Aid: Eyes

Remove contact lenses, if it can be done safely. Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical if symptoms develop or persist.

First Aid: Skin

Remove contaminated clothing and shoes. Wash immediately with soap and water. Seek medical attention if symptoms develop or persist. Completely decontaminate clothing, shoes and other protective equipment before reuse or discard.

First Aid: Inhalation

Move affected individual to non-contaminated air. Loosen tight clothing such as a collar, tie, belt or waistband to facilitate breathing. Seek immediate medical attention if the individual is not breathing, is unconscious or if any other symptoms persist. WARNING: Contact through mouth-to-mouth resuscitation may pose a secondary risk to the rescuer. Avoid mouth-to-mouth contact by using a mouth shield or guard to perform artificial respiration.

First Aid: Ingestion

DO NOT INDUCE VOMITING. Loosen tight clothing such as a collar, tie, belt or waistband. Seek immediate medical attention.

First Aid: Notes to Physician

For more detailed medical emergency support information call 1-800-561-6682 or 1-403-314-8767 (24 hours, NOVA Chemicals Emergency Response). Ensure thorough eye and skin decontamination. Treat unconsciousness, nausea, hypotension, seizures and cardiac arrhythmias in the conventional manner. Aspiration of this product during induced emesis can result in lung injury. If evacuation of stomach contents is considered necessary, use the method least likely to cause aspiration, such as gastric lavage after protecting the airway. Observe hospitalized patients for delayed chemical pneumonia, acute tubular necrosis, encephalopathy and dysrhythmias. Monitor for urinary phenol within 72 hours of acute exposure.

Section 5 - Fire Fighting Measures

See Section 9: Physical Properties for flammability limits, flash point and auto-ignition information.

General Fire Hazards

Fire and explosion hazards are serious when this product is exposed to heat, sparks or flame. Vapors are heavier than air and may travel along the ground to some distant source of ignition and flash back. Product will float and can be reignited on the surface of water. Consider initial downwind evacuation for at least 800 meters (1/2 mile). If tank is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions.

Explosion Hazards

Vapors may form an explosive mixture with air. Keep containers and pipelines away from source of heat or fire. Evacuate personnel 800 to 1600 meters (1/2 mile to one mile) distance if during a fire, a rupture of a rail car, tank car, or major vessel is possible. Monitor heated vessels for pressure build-up. This product may be a static

accumulator which can form an ignitable vapor-air mixture in a storage tank.

Hazardous Combustion Products

Upon decomposition, this product emits carbon monoxide, carbon dioxide, and/or low molecular weight hydrocarbons.

Extinguishing Media

Dry chemical, foam, or carbon dioxide. Use water to cool fire-exposed containers and to protect personnel. Water may be an ineffective extinguishing medium and increase spread of flames. Covering liquid spills with foam may help suppress flammable vapors. Contain all liquid runoff to prevent entry into sewers, drains, ditches or waterways.

Fire Fighting Equipment/Instructions

Reference 2008 Emergency Response Guidebook, Guide # 128 for additional details and instructions. Position upwind. Keep unnecessary personnel away. Move containers from fire area if you can do so without risk. Fight fire from maximum distance or use unmanned holders or monitor nozzles. Immediately withdraw in case of fire and container venting or heat discoloration of a container. Fire fighters should wear full-face, self-contained breathing apparatus and thermal protective clothing. Avoid inhaling any smoke and combustion materials. Remove and clean or destroy any contaminated clothing. Cool containers with flooding quantities of water until well after the fire is out. Control runoff waters to prevent entry into sewers, drains, underground or confined spaces and waterways.

Section 6 - Accidental Release Measures

Evacuation Procedures

Isolate area. Keep unnecessary personnel away. Alert stand-by emergency and fire fighting personnel. Monitor surrounding area for build-up of flammable concentrations in air.

Small Spills

Eliminate ignition sources. Spill or leak area should be isolated. Keep upwind and out of low areas. Stop discharge if safe to do so. Contain discharge by booming on water or diking on ground. Remove liquid material with non-sparking approved pumps, skimmers or vacuum equipment. Absorb/adsorb residual materials and clean up with non-sparking tools. Prevent entry into ditches, sewers, drains, underground or confined spaces, water intakes and waterways. Keep area isolated until any detectable flammable vapors have been dispersed. Shovel material with non-sparking tools into appropriate container for disposal.

Large Spills

Consider downwind evacuation for 300 meters (984 feet). Eliminate ignition sources. Keep upwind and out of low areas. Stop discharge if safe to do so. Contain liquids by booming on water or by diking on land to prevent entry into ditches, sewers, drains or waterways. Spills on water will float and may volatize rapidly, making containment or recovery difficult. Recover any pooled liquid material with approved, non-sparking pumps, skimmers or vacuum equipment. An inert foam cover material may assist in short term vapor suppression. Absorb with DRY earth, sand or other non-combustible material and clean up with non-sparking tools. Keep area isolated until any detectable flammable vapors have been dispersed. Soil remediation may be required.

Special Procedures

Contact local police/emergency services and appropriate emergency telephone numbers provided in Section 1. Ensure that statutory and regulatory reporting requirements in the applicable jurisdiction are met.
Wear appropriate protective equipment and clothing during cleanup. Individuals without appropriate protective equipment should be excluded from area of spill until cleanup has been completed.

See Section 8 for recommended Personal Protective Equipment and Section 13 for waste disposal considerations.

Section 7 - Handling and Storage

Handling Procedures

Keep locked up or secured. Handle in fully grounded, properly designed and approved equipment systems that are suitable for flammable liquids. Use with adequate ventilation. Do not ingest or inhale. Keep away from heat and ignition sources. No smoking or open flames permitted in storage, use or handling areas. Dissipate static electricity during transfer by grounding and bonding containers and equipment. Bonding and grounding may be insufficient to eliminate the hazard from static-accumulating flammable liquids. For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the

American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, “National Electrical Code”. Take special precautions when cold cutting or breaking into lines, or when cleaning and disposing of empty containers. Do not breathe gas, fumes, vapor or spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately. Avoid contact with skin and eyes. Keep away from incompatible materials such as oxidizing agents and acids. After handling, always wash hands thoroughly with soap and water.

Storage Procedures

Storage area should be clearly identified, well-illuminated, clear of obstruction and accessible only to trained and authorized personnel. Adequate security must be provided so that unauthorized personnel do not have access to product. Store in grounded, properly designed and approved vessels and away from incompatible materials. Store and use away from heat, sparks, open flame, or any other ignition source. Store according to applicable regulations for flammable materials for storage tanks, containers, piping, buildings, rooms, cabinets, allowable quantities and minimum storage distances. Use non-sparking ventilation systems, approved explosion-proof equipment, and intrinsically safe electrical systems. Have appropriate extinguishing capability in storage area (e.g. sprinkler system, portable fire extinguishers (dry chemical, foam or carbon dioxide)), and flammable gas detectors. Keep absorbents for leaks and spills readily available. Consider use of internal floating roof tanks or flame arrestors. Inspect vents during winter conditions for vapor ice build-up. Storage tanks should be above ground and diked to hold entire contents. A refrigerated room is generally recommended for warehouse storage of materials with a flash point lower than 37.8°C (100°F).

See Section 8: Exposure Controls/Personal Protection for appropriate Personal Protective Equipment. See Section 10 for information on Incompatibilities.

Section 8 - Exposure Controls / Personal Protection

Exposure Guidelines

A: General Product Information

Refer to published exposure limits - use effective control measures and PPE to maintain worker exposure to concentrations that are below these limits. Ensure that eyewash stations and safety showers are in close proximity to work locations.

B: Component Exposure Limits

ACGIH, OSHA, NIOSH, EPA, Alberta, and Ontario exposure limit lists have been checked for major components listed with CAS registry numbers. Other exposure limits may apply, check with proper authorities.

*NOTE: The Vacated OSHA Permissible Exposure Limits (PELs) are those provided in the 1989 update to OSHA's Air Contaminants Standard 29 CFR 1910.1000. These limits were vacated by the U.S. Court of Appeals, Eleventh Circuit but may be enforceable in some states.

Octene (25377-83-7)

AIHA:	75 ppm TWA (recommended Workplace Environmental Exposure Level (WEEL)) (as 1-Octene)

Xylenes (1330-20-7)

ACGIH:	100 ppm TWA; 434 mg/m3 TWA; 150 ppm STEL; 651 mg/m3 STEL; BEI
OSHA (Vacated)*:	100 ppm TWA; 435 mg/m3 TWA; 150 ppm STEL; 655 mg/m3 STEL
OSHA Final:	100 ppm TWA; 435 mg/m3 TWA
Alberta:	100 ppm TWA; 434 mg/m3 TWA; 150 ppm STEL; 651 mg/m3 STEL (as dimethylbenzene (xylene, o, m & p isomers))
Ontario:	100 ppm TWAEV; 435 mg/m3 TWAEV; 150 ppm STEV; 650 mg/m3 STEV (as dimethylbenzene (sum of o-, m-, and p-isomers)

ENGINEERING CONTROLS

Engineering methods to reduce hazardous exposure are preferred controls. Methods include mechanical ventilation (dilution and local exhaust) process or personal enclosure, remote and automated operation, control of process conditions, leak detection and repair systems, and other process modifications. Ensure all exhaust ventilation systems are discharged to outdoors, away from air intakes and ignition sources. Supply sufficient

replacement air to make up for air removed by exhaust systems. Administrative (procedure) controls and use of personal protective equipment may also be required.

PERSONAL PROTECTIVE EQUIPMENT

Personal Protective Equipment: Eyes/Face

Wear safety glasses; chemical goggles are recommended if splashing is possible, or to prevent eye irritation from vapors.

Personal Protective Equipment: Skin/Hands/Feet

Use impervious gloves when handling product. Wear chemical-resistant safety footwear with good traction to prevent slipping. Work clothing that sufficiently prevents skin contact should be worn, such as coveralls and/or long sleeves and pants. Fire resistant (i.e., Nomex) or natural fiber clothing (i.e., cotton or wool) is recommended. Synthetic clothing can generate static electricity and is not recommended where a flammable vapor release may occur. Static Dissipative (SD) rated footwear is recommended.

Personal Protective Equipment: Respiratory

If engineering controls and ventilation is not sufficient to prevent buildup of aerosols or vapors or dusts, appropriate NIOSH/MSHA approved air-purifying respirators or self-contained breathing apparatus (SCBA) appropriate for exposure potential should be used. Air supplied breathing apparatus must be used when oxygen concentrations are low or if airborne concentrations exceed the limits of the air-purifying respirators.

Personal Protective Equipment: General

Personal protective equipment (PPE) should not be considered a long-term solution to exposure control. Employer programs to properly select, fit, maintain, and train employees to use equipment must accompany PPE. Consult a competent industrial hygiene resource, the PPE manufacturer's recommendation, and/or applicable regulations to determine hazard potential and ensure adequate protection.

Section 9 - Physical & Chemical Properties

Physical State and Appearance:	Liquid	**Color:**	Colorless
Odor:	Hydrocarbon, mild to distinct	**Odor Threshold:**	Not available
pH:	Not applicable	**Vapor Pressure:**	15-30 mm Hg at 20ºC (68ºF) (1-Octene)
Vapor Density @ 0ºC (Air=1):	3.0 (at ambient conditions)	**Boiling Point:**	Range: Varies: 50°C to 150ºC (122°C to 302ºF)
Melting Point:	-160ºC (-256ºF)	**Solubility (H2O):**	Insoluble
Specific Gravity (Water=1):	Range: 0.7-0.8	**Dispersion Properties:**	Not dispersed in hot or cold water.
Evaporation Rate (n-Butyl Acetate=1):	Varies, estimate from 0.7 to 1.3	**Percent Volatile:**	100%
Octanol/H2O Coeff.:	3.14-3.4 (xylenes)	**Auto Ignition:**	464°C (xylenes)
Flash Point:	Range: Varies: -13°C to 13ºC (8.6°F to 55.4ºF)	**Flash Point Method:**	Pensky Marten's Closed Cup
Upper Flammable Limit (UFL):	6.8% (1-Octene)	**Lower Flammable Limit (UFL):**	0.8% (1-Octene)
Flammability Classification:	Extremely Flammable		

Section 10 - Stability & Reactivity Information

Chemical Stability

This product is stable under normal use conditions for shock, vibration, pressure, and ambient temperature.

Chemical Stability: Conditions to Avoid

Keep away from heat, sparks, or open flame.

Incompatibility

May react with strong oxidizing agents and acids. May attack and degrade some protective coatings and gaskets over time. Vapors may form explosive mixture with air.

Possibility of Hazardous Reactions or Hazardous Polymerization

Hazardous polymerization is not likely to occur.

Corrosivity

Not considered to be corrosive.

Hazardous Decomposition

Upon decomposition, this product emits carbon monoxide, carbon dioxide, and/or low molecular weight hydrocarbons.

Section 11 - Toxicological Information

A: Acute Toxicity - General Product Information

No information is available for the material as a tested mixture. Major components (1-octene, mixed C7 and C9 alkanes and alkenes) were assessed under the EPA's High Production Volume (HPV) Chemical Challenge Program, in the Higher Olefins Category testing. This product is not classified as acutely toxic based on animal testing results. Eye contact produced mild to moderate reversible eye irritation with slight conjunctivitis. Product produces mild to moderate skin irritation, but effects were reversible. Accidental ingestion or excessive inhalation results in central nervous system (CNS) effects including headache, weakness, sleepiness, dizziness, loss of coordination, slurred speech, and blurred vision. Overexposure may result in coma, respiratory arrest, and death. Small amounts of liquid if aspirated into the lungs may cause severe pulmonary injury/edema. Rats orally dosed displayed signs of hypoactivity, diarrhea and unsteady stance.

The following additional information has been found for its components:

Xylenes, mixed - Vapors can irritate the eyes. Contact with unprotected skin or eyes produces erythema and slight necrosis. Xylene can be absorbed through intact skin. Inhalation can irritate the nose and throat causing cough and difficulty breathing. Inhalation of high concentrations may result in central nervous system (CNS) depression, causing headache, dizziness, nausea, vomiting, loss of coordination, confusion, unconsciousness, and in extreme conditions, coma and possibly death. Ingestion and subsequent aspiration into the lungs may cause chemical pneumonitis.

B: Component Analysis - LD50/LC50

Octene (mixed isomers) (25377-83-7)
Inhalation LC50 Rat: 36.87 mg/L/4H; Oral LD50 Rat: >3500 mg/kg; Dermal LD50 Rabbit: >2000 mg/kg
1-Octene (111-66-0)
Inhalation LC50 Rat: 36.9 mg/L/4H; Oral LD50 Rat: >5000 mg/kg; Dermal LD50 Rabbit: >2000 mg/kg
Xylenes (1330-20-7)
Inhalation LC50 Rat: 5000 ppm/4H; Inhalation LC50 Rat: 47,635 mg/L/4H; Oral LD50 Rat: 4300 mg/kg; Dermal LD50 Rabbit: >1700 mg/kg
Alkenes, C7-9, C8 Rich (68526-54-5)
Inhalation LC50 Rat, Mice: >31.7 mg/L/6H; Oral LD50 Rat: >5000 mg/kg; Dermal LD50 Rabbit: >3160 mg/kg

C: Chronic Toxicity - General Product Information

No information is available for the material as a tested mixture. Major components (1-octene, mixed C7 and C9 alkanes and alkenes) were assessed under the EPA's High Production Volume (HPV) Chemical Challenge Program, in the Higher Olefins Category testing. Based upon similar products, tests indicated that the mixture is unlikely to be genotoxic, mutagenic or carcinogenic. Prolonged or repeated skin contact can cause defatting dermatitis with dryness and cracking. Prolonged skin exposure produced severe skin irritation; however, the mixture did not show evidence of sensitizing effects. No other serious long-term effects were reported.

The following additional information has been found for its components.

Xylenes, mixed - Prolonged and repeated skin contact can cause defatting dermatitis with drying and cracking. Chronic inhalation has been associated with central nervous system effects, loss of appetite, nausea, ringing in the ears, irritability, thirst, anemia, mucosal bleeding, enlarged liver, and hyperplasia. Xylene can damage the liver and kidneys. In chronic occupational exposure, xylene (usually mixed with other solvents) has produced irreversible damage to the central nervous system and may be ototoxic (damages hearing or increases sensitivity to noise), probably from a neurotoxic mechanism. Xylene is classified as a developmental toxicant in Canada.

D: Chronic Toxicity - Carcinogenic Effects

ACGIH, EPA, IARC, OSHA, and NTP carcinogen lists have been checked for selected similar materials or those components with CAS registry numbers.

Xylenes (1330-20-7)
ACGIH: A4 - Not Classifiable as a Human Carcinogen
EPA: Classification: not classified as a carcinogen.
IARC: Monograph 71 [1999], Monograph 47 [1989] (Group 3 (not classifiable))

Section 12 - Ecological Information

Ecotoxicity

A: General Product Information

No information is available for the material as a tested mixture. Major components (1-octene, mixed C7 and C9 alkanes and alkenes) were assessed under the EPA's High Production Volume (HPV) Chemical Challenge Program, in the Higher Olefins Category testing. Product is largely insoluble in water, and evaporates rapidly. This product is considered harmful to aquatic life and is likely to have limited absorption into soil and sediment.

B: Component Analysis - Ecotoxicity – Aquatic/Terrestrial Toxicity

Octene, mixed isomers (25377-83-7)
16 Day Daphnia magna EC50: 134 ug/L (calculated - ECOSAR)
96 Hr Green algae ChV: 249 ug/L (calculated - ECOSAR)

1-Octene (111-66-0)
96 Hr Brachydanio rerio LL50: >3.2<10 mg/l (calculated)
48 Hr Daphnia magna EL50: >3.2<10 mg/l (calculated)

Xylenes (1330-20-7)

Test & Species		Conditions
96 Hr LC50 Oncorhynchus mykiss	13.5-17.3 mg/L	
96 Hr LC50 Cyprinus carpio	>780 mg/L	
48 Hr EC50 water flea	3.82 mg/L	
48 Hr LC50 Gammarus lacustris	0.6 mg/L	

Alkenes, C7-9, C8 Rich (68526-54-5)
96 Hr LC50 Oncorhynchus mykiss: 0.87 mg/l

Environmental Fate/Mobility

No information is available for the material as a tested mixture. Modeling results indicate that octene will partition primarily to air under equilibrium conditions but primarily to water under the assumed pattern of chemical release (equal loading of water, soil and air). The half-life of octene in air is 6.3 hours, in water is 360 hours and in sediment is 1440 hours (EPIWIN 2000b). Some of the xylene will be scavenged by rain. From the surface of water, half of the amount of xylene will be volatized within 2 to 5.5 days.

Octene (25377-83-7):
Koc: 506.7 (calculated - EPIWIN)
Half-Life, from a model river: 1.082 hours (calculated - EPIWIN 2000a)
Half-Life, from a model lake: 4.2 days (calculated - EPIWIN 2000a)

Persistence/Degradability

No information is available for the material as a tested mixture. Direct photolysis and hydrolysis will not significantly contribute to degradation of constituent chemicals. Components are likely to degrade in air and over time in soils or ground water into less toxic materials. When released into the air, xylene may degrade in air by reaction with photochemically produced hydroxyl radicals. The photo-reaction products are formic acid and acetic acid that, after absorption in the hydrosphere are further degraded to CO2 and H2O.

Bioaccumulation/Accumulation

No information is available for the material as a tested mixture. Product has the potential for moderate bioaccumulation based on calculated values.

Octene (25377-83-7):
BCF = 659 (calculated - EPIWIN 2000a)

Some absorption to sediment may occur for xylene. Low to moderate absorption to soil would be expected based on the Kow. Little bioconcentration is expected in fish such as eel and clams. The concentration in rainbow trout and carp was found at the level of 50 and 120 ppb respectively.

Section 13 - Disposal Considerations

U.S./Canadian Waste Number & Descriptions

A: General Product Information

This product is known to be a hazardous waste according to US and Canadian regulations. The use, mixing or processing of this product may alter the characteristics of this product. Contact federal, provincial/state and local authorities in order to generate or ship a waste material associated with this product to ensure materials are handled appropriately and meet all criteria for disposal of hazardous waste. DO NOT ATTEMPT TO DISPOSE OF BY UNCONTROLLED IGNITION. Since emptied containers retain product residue, follow safe handling/label warnings even after container is emptied.

See Section 7: Handling and Storage and Section 8: Exposure Controls/Personal Protection for additional handling information that may be applicable for safe handling and the protection of employees.

Waste generator is advised to carefully consider hazardous properties and control measures needed for other materials that may be found in the waste.

B: Component Waste Numbers

Xylenes (1330-20-7)

RCRA: waste number U239 (Ignitable waste, Toxic waste)

Section 14 - Transportation Information

US DOT Information

Shipping Name: Hydrocarbons, liquid, n.o.s. (Contains: Octenes, Xylenes)
UN/NA #: UN3295 **Hazard Class:** 3 **Packing Group:** II
Required Label(s): FLAMMABLE LIQUID
Additional Info.: NOTE: The Reportable Quantity for xylene is 100 lbs. (45.4 kg) each.
2008 Emergency Response Guidebook: Guide No. 128

Canadian TDG Information

Shipping Name: HYDROCARBONS, LIQUID, N.O.S. (OCTENES, XYLENES)
UN #: UN3295 **Hazard Class:** 3 **Packing Group:** II
Required Label(s): FLAMMABLE LIQUID
2008 Emergency Response Guidebook: Guide No. 128

International Air Transport Association (IATA) and ICAO Information

Shipping Name: Hydrocarbons, liquid, n.o.s. (Contains: Octenes, Xylenes)
UN #: UN3295 **Hazard Class:** 3 **Packing Group:** II
Required Label(s): FLAMMABLE LIQUID

International Maritime Dangerous Goods (IMDG) Code

Shipping Name: Hydrocarbons, liquid, n.o.s. (Contains: Octenes, Xylenes)
UN #: UN3295 **Hazard Class:** 3 **Packing Group:** II
Required Label(s): FLAMMABLE LIQUID
Additional Info.: EmS No.: F-E, S-D

Section 15 - Regulatory Information

A: International Regulations

Component Analysis – International Inventory Status

Component	CAS #	US - TSCA	CANADA - DSL	EU - EINECS
Octene (mixed isomers)	25377-83-7	Yes	Yes	Yes
Xylenes	1330-20-7	Yes	Yes	Yes

B: USA Federal & State Regulations

Ongoing occupational hygiene, medical surveillance programs, or site emission or spill reporting may be required by Federal or State regulations. Check for applicable regulations.

USA OSHA Hazard Communication Class

This product/material is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
HCS Classes:
HCS CLASS: Flammable liquid IB having a flash point lower than 22.8ºC (73ºF) and a boiling point higher than 37.8ºC (100ºF).
HCS CLASS: Irritating substance.

USA Right-to-Know - Federal

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Xylenes (1330-20-7)

SARA 313: 1.0 % de minimis concentration
CERCLA: 100 lb final RQ; 45.4 kg final RQ

USA Right-to-Know - State

The following components appear on one or more of the following state hazardous substances lists. Some components (including those present only in trace quantities, and therefore not listed in this document) may be included on the Right-To-Know lists of other U.S. states. The reader is therefore cautioned to contact his or her NOVA Chemicals' representative or NOVA Chemicals' Product Integrity group for further U.S. State Right-To-Know information.

Component	CAS #	NJ	PA
Octene (mixed isomers)	25377-83-7	No	No
Xylenes	1330-20-7	Yes	Yes

C: Canadian Regulations - Federal and Provincial

Canadian Environmental Protection Act (CEPA): All components of this product are on the Domestic Substances List (DSL), and are acceptable for use under the provisions of CEPA.

WHMIS Ingredient Disclosure List (IDL)

No components are listed under the Canadian Hazardous Products Act Ingredient Disclosure List (IDL).

WHMIS Classification

Workplace Hazardous Materials Information System (WHMIS): This product has been classified in accordance with the hazard criteria of the CPR (Controlled Products Regulations), and the MSDS contains all the information required by the CPR.
WHMIS CLASS B2: Flammable liquid with a flash point lower than 37.8ºC (100ºF).
WHMIS CLASS D2A: Animal embryotoxic (Xylene)
WHMIS CLASS D2B: Skin irritation

Other Regulations

Ongoing occupational hygiene, medical surveillance programs, or site emission or spill reporting may be required by Federal or Provincial regulations. Check for applicable regulations.

Section 16 - Other Information

Label Information

DANGER! FLAMMABLE. TOXIC. This product is a colorless liquid with a mild to distinct hydrocarbon odor. Vapor is heavier than air and may spread long distances. Distant ignition and flashback are possible. Flammable liquids and vapors can accumulate static charge. Product will float on water and may travel to distant locations and/or spread fire. This product is harmful by inhalation and may be fatal if swallowed. This product is irritating to the eyes and skin. Ingestion or excessive inhalation of this material may result in central nervous system effects including headache, sleepiness, dizziness, slurred speech, blurred vision, and in extreme conditions coma and possibly death. Small amounts of this material, if aspirated into the lungs, may cause severe pulmonary injury and possibly death. Contains component with reproductive toxicity.
FIRST AID:
EYES: Remove contact lenses, if it can be done safely. Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical is symptoms develop or persist.
SKIN: Remove contaminated clothing and shoes. Wash immediately with soap and water. Seek medical attention if symptoms develop or persist. Completely decontaminate clothing, shoes and other protective equipment before reuse or discard.

INHALATION: Move affected individual to non-contaminated air. Loosen tight clothing such as a collar, tie, belt or waistband to facilitate breathing. Seek immediate medical attention if the individual is not breathing, is unconscious or if any other symptoms persist. WARNING: Contact through mouth-to-mouth resuscitation may pose a secondary risk to the rescuer. Avoid mouth-to-mouth contact by using a mouth shield or guard to perform artificial respiration.
INGESTION: DO NOT INDUCE VOMITING. Loosen tight clothing such as a collar, tie, belt or waistband. Seek immediate medical attention.
IN CASE OF A LARGE SPILL: Consider downwind evacuation for 300 meters (984 feet). Eliminate ignition sources. Keep upwind and out of low areas. Stop discharge if safe to do so. Contain liquids by booming on water or by diking on land to prevent entry into ditches, sewers, drains or waterways. Spills on water will float and may volatize rapidly, making containment or recovery difficult. Recover any pooled liquid material with approved, non-sparking pumps, skimmers or vacuum equipment. An inert foam cover material may assist in short term vapor suppression. Absorb with DRY earth, sand or other non-combustible material and clean up with non-sparking tools. Keep area isolated until any detectable flammable vapors have been dispersed. Soil remediation may be required.

References

Available on request.

Special Considerations

Bonding and grounding may be insufficient to eliminate the hazard from static-accumulating flammable liquids. For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, “National Electrical Code”.

Key/Legend

ACGIH = American Conference of Governmental Industrial Hygienists; BOD = Biochemical Oxygen Demand; CAS = Chemical Abstracts Service; CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act; CPR = Controlled Products Regulations; DOT = Department of Transportation; DSL = Domestic Substances List; EINECS = European Inventory of Existing Commercial Substances; EPA = Environmental Protection Agency; EU = European Union; FDA = Food and Drug Administration; IARC = International Agency for Research on Cancer; IDL = Ingredient Disclosure List; Kow = Octanol/water partition coefficient; LEL = Lower Explosive Limit; NIOSH = National Institute for Occupational Safety and Health; NJTSR = New Jersey Trade Secret Registry; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; RCRA = Resource Conservation and Recovery Act; SARA = Superfund Amendments and Reauthorization Act; TDG = Transportation of Dangerous Goods; TSCA = Toxic Substances Control Act.

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Other Information

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