



SAFETY DATA SHEET

SDS ID NO.: 0159MAR020
Revision Date 05/21/2015

1. IDENTIFICATION

Product Name: Marathon Petroleum Naphtha, Solvent Refined Light
Synonym: Naphtha, Solvent Refined Light; Solvent Refined Naphtha, Light (Raffinate); Raffinates
Petroleum Catalytic Reformer Ethylene Glycol
Product Code: 0159MAR020
Chemical Family: Aliphatic Naphtha
Recommended Use: Feedstock.
Restrictions on Use: All others.

Manufacturer, Importer, or Responsible Party Name and Address:
MARATHON PETROLEUM COMPANY LP
539 South Main Street
Findlay, OH 45840

SDS information: 1-419-421-3070

Emergency Telephone: 1-877-627-5463

2. HAZARD IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

| | |
|--|------------|
| Flammable liquids | Category 2 |
| Skin corrosion/irritation | Category 2 |
| Carcinogenicity | Category 2 |
| Reproductive toxicity | Category 2 |
| Specific target organ toxicity (single exposure) | Category 3 |
| Specific target organ toxicity (repeated exposure) | Category 2 |
| Aspiration toxicity | Category 1 |
| Acute aquatic toxicity | Category 2 |
| Chronic aquatic toxicity | Category 2 |

Hazards Not Otherwise Classified (HNOC)

Static accumulating flammable liquid

Label elements

EMERGENCY OVERVIEW

Danger

HIGHLY FLAMMABLE LIQUID AND VAPOR
May accumulate electrostatic charge and ignite or explode

May be fatal if swallowed and enters airways
Causes skin irritation
May cause drowsiness or dizziness
Suspected of causing cancer
Suspected of damaging fertility or the unborn child
May cause damage to organs (nervous system, auditory system) through prolonged or repeated exposure
Toxic to aquatic life with long lasting effects



Appearance Clear Liquid

Physical State Liquid

Odor Hydrocarbon

Precautionary Statements - Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools.
Take precautionary measures against static discharge
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Wear protective gloves/protective clothing/eye protection/face protection
Do not breathe fumes/gas/vapors
Use only outdoors or in a well-ventilated area
Wash hands and any possibly exposed skin thoroughly after handling
Avoid release to the environment

Precautionary Statements - Response

IF exposed or concerned: Get medical attention
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
If skin irritation occurs: Get medical attention
Wash contaminated clothing before reuse
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a POISON CENTER or doctor if you feel unwell
IF SWALLOWED: Immediately call a POISON CENTER or doctor
Do NOT induce vomiting
In case of fire: Use water spray, fog or regular foam for extinction
Collect spillage

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
Keep cool
Store locked up

Precautionary Statements - Disposal

Dispose of contents/container at an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Solvent Refined Light Naphtha is a complex mixture of paraffinic, cycloparaffinic, olefinic and aromatic hydrocarbons (predominantly C6 through C9) obtained as the raffinate from the UDEX extraction process on the catalytic reformer stream.

Composition Information:

| Name | CAS Number | % Concentration |
|---|------------|-----------------|
| Raffinates (petroleum), catalytic reformer ethylene glycol-water countercurrent exts. | 68410-71-9 | 100 |
| Paraffins | 68551-20-2 | 70-80 |
| n-Hexane | 110-54-3 | 5-12 |
| Xylene (mixed isomers) | 1330-20-7 | 0.5-3 |
| 1,2,4-Trimethylbenzene | 95-63-6 | 0.5-1.5 |
| Toluene | 108-88-3 | 0-1 |
| Ethylbenzene | 100-41-4 | 0-0.4 |

All concentrations are percent by weight unless material is a gas. Gas concentrations are in percent by volume.

4. FIRST AID MEASURES

First Aid Measures

- General Advice:** In case of accident or if you feel unwell, seek medical advice immediately (show directions for use or safety data sheet if possible).
- Inhalation:** Remove to fresh air. If not breathing, institute rescue breathing. If breathing is difficult, ensure airway is clear, give oxygen and continue to monitor. If heart has stopped, immediately begin cardiopulmonary resuscitation (CPR). Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.
- Skin Contact:** Immediately wash exposed skin with plenty of soap and water while removing contaminated clothing and shoes. May be absorbed through the skin in harmful amounts. Get medical attention if irritation persists.
- Place contaminated clothing in closed container until cleaned or discarded. If clothing is to be laundered, inform the person performing the operation of contaminant's hazardous properties. Destroy contaminated, non-chemical resistant footwear.
- Eye Contact:** Flush immediately with large amounts of water for at least 15 minutes. Eyelids should be held away from the eyeball to ensure thorough rinsing. Gently remove contacts while flushing. Get medical attention if irritation persists.
- Ingestion:** Do not induce vomiting because of danger of aspirating liquid into lungs, causing serious damage and chemical pneumonitis. If spontaneous vomiting occurs, keep head below hips, or if patient is lying down, turn body and head to side to prevent aspiration and monitor for breathing difficulty. Never give anything by mouth to an unconscious person. Keep affected person warm and at rest. GET IMMEDIATE MEDICAL ATTENTION.

Most important signs and symptoms, both short-term and delayed with overexposure

- Adverse Effects:** Acute: Headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue. May cause eye, skin and respiratory irritation. Delayed: Dry skin and possible irritation with repeated or prolonged exposure. Prolonged or repeated exposure may cause adverse effects on blood, blood-forming organs, and immune system.

Indication of any immediate medical attention and special treatment needed

- Notes To Physician:** INHALATION: This material (or a component) sensitizes the myocardium to the effects of sympathomimetic amines. Epinephrine and other sympathomimetic drugs may initiate cardiac arrhythmias in individuals exposed to this material. Administration of sympathomimetic drugs should be avoided.
- INGESTION: This material represents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

For small fires, Class B fire extinguishing media such as CO₂, dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Firefighting should be attempted only by those who are adequately trained and equipped with proper protective equipment.

Unsuitable extinguishing media

Do not use straight water streams to avoid spreading fire.

Specific hazards arising from the chemical

This product has been determined to be a highly flammable liquid per the OSHA Hazard Communication Standard and should be handled accordingly. May accumulate electrostatic charge and ignite or explode. Vapors may travel along the ground or be moved by ventilation and ignited by many sources such as pilot lights, sparks, electric motors, static discharge, or other ignition sources at locations distant from material handling. Flashback can occur along vapor trail. For additional fire related information, see NFPA 30 or the Emergency Response Guidebook 128.

Hazardous combustion products

Smoke, carbon monoxide, and other products of incomplete combustion.

Explosion data

Sensitivity to Mechanical Impact No.

Sensitivity to Static Discharge Yes.

Special protective equipment and precautions for firefighters

Firefighters should wear full protective clothing and positive-pressure self-contained breathing apparatus (SCBA) with a full face-piece, as appropriate. Avoid using straight water streams. Water may be ineffective in extinguishing low flash point fires, but can be used to cool exposed surfaces. Avoid excessive water spray application. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Keep run-off water out of sewers and water sources.

Additional firefighting tactics

FIRES INVOLVING TANKS OR CAR/TRAILER LOADS: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after the fire is out. Do not direct water at source of leak or safety devices; icing may occur. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. ALWAYS stay away from tanks engulfed in fire. For massive fire, use unmanned hose holders or monitor nozzles: if this is impossible, withdraw from area and let fire burn.

EVACUATION: Consider initial downwind evacuation for at least 1000 feet. If tank, rail car or tank truck is involved in a fire, ISOLATE for 5280 feet (1 mile) in all directions; also, consider initial evacuation of 5280 feet (1 mile) in all directions.

NFPA

Health 1

Flammability 3

Instability 0

Special Hazard -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources.

Protective equipment:

Use personal protection measures as recommended in Section 8.

Emergency procedures:

Advise authorities and National Response Center (800-424-8802) if the product has entered a water course or sewer. Notify local health and pollution control agencies, if appropriate.

Environmental precautions:

Avoid release to the environment. Avoid subsoil penetration.

Methods and materials for containment:

Contain liquid with sand or soil.

Methods and materials for cleaning Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual

up: liquids. Recover and return free product to proper containers. When recovering free liquids ensure all equipment is grounded and bonded. Use only non-sparking tools.

7. HANDLING AND STORAGE

Safe Handling Precautions: Use appropriate grounding and bonding practices. Static accumulating flammable liquid. Bonding and grounding may be insufficient to eliminate the hazard from static electricity. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. Do not cut, drill, grind or weld on empty containers since explosive residues may remain. Avoid contact with skin, eyes and clothing. Use personal protection measures as recommended in Section 8. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water. Refer to applicable EPA, OSHA, NFPA and consistent state and local requirements.

Components of this product are basically non-conductors of electricity and can become electrostatically charged during mixing, filtering or pumping at high flow rates. If this charge reaches a sufficiently high level, sparks can form that may ignite the vapors of flammable liquids. Sudden release of hot organic vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into vacuum equipment, may result in ignitions without the presence of obvious ignition sources.

Storage Conditions: Store in properly closed containers that are appropriately labeled and in a cool, well-ventilated area.

Incompatible Materials Strong oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

| Name | ACGIH TLV | OSHA PELs: | OSHA - Vacated PELs | NIOSH IDLH |
|---|--|---|--|------------|
| Raffinates (petroleum), catalytic reformer ethylene glycol-water countercurrent exts. 68410-71-9 | - | - | - | - |
| Paraffins 68551-20-2 | - | - | - | - |
| n-Hexane 110-54-3 | 50 ppm TWA Skin - potential significant contribution to overall exposure by the cutaneous route | TWA: 500 ppm TWA: 1800 mg/m ³ | 50 ppm TWA 180 mg/m ³ TWA | 1100 ppm |
| Xylene (mixed isomers) 1330-20-7 | 100 ppm TWA 150 ppm STEL | TWA: 100 ppm TWA: 435 mg/m ³ | 100 ppm TWA 435 mg/m ³ TWA 150 ppm STEL 655 mg/m ³ STEL | 900 ppm |
| 1,2,4-Trimethylbenzene 95-63-6 | 25 ppm TWA | - | 25 ppm TWA 125 mg/m ³ TWA | - |
| Toluene 108-88-3 | 20 ppm TWA | TWA: 200 ppm Ceiling: 300 ppm | 100 ppm TWA 375 mg/m ³ TWA 150 ppm STEL 560 mg/m ³ STEL | 500 ppm |
| Ethylbenzene 100-41-4 | 20 ppm TWA | TWA: 100 ppm TWA: 435 mg/m ³ | 100 ppm TWA 435 mg/m ³ TWA 125 ppm STEL 545 mg/m ³ STEL | 800 ppm |

Notes: The manufacturer has voluntarily elected to provide exposure limits contained in OSHA's 1989 air contaminants standard in its SDSs, even though certain of those exposure limits were vacated in 1992.

Engineering measures: Local or general exhaust required in an enclosed area or when there is inadequate

ventilation. Use mechanical ventilation equipment that is explosion-proof.

Personal protective equipment

- Eye protection:** Use goggles or face-shield if the potential for splashing exists.
- Skin and body protection:** Use nitrile rubber, Viton® or PVA gloves for repeated or prolonged skin exposure. Glove suitability is based on workplace conditions and usage. Contact the glove manufacturer for specific advice on glove selection and breakthrough times. Depending upon the conditions of use and specific work situations, additional protective equipment and/or clothing may be required to control exposures.
- Respiratory protection:** Approved organic vapor chemical cartridge or supplied air respirators should be worn for exposures to any components exceeding the established exposure limits. Observe respirator assigned protection factors (APFs) criteria cited in federal OSHA 29 CFR 1910.134. Self-contained breathing apparatus should be used for fire fighting.
- Hygiene measures:** Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

| | |
|-----------------------|--------------------|
| Physical State | Liquid |
| Appearance | Clear Liquid |
| Color | Clear |
| Odor | Hydrocarbon |
| Odor Threshold | No data available. |

| <u>Property</u> | <u>Values (Method)</u> |
|--|-------------------------------|
| Melting Point / Freezing Point | No data available. |
| Initial Boiling Point / Boiling Range | 36-162 °C / 97-323 °F |
| Flash Point | -17.8 °C / 0 °F |
| Evaporation Rate | No data available. |
| Flammability (solid, gas) | Not applicable. |
| Flammability Limit in Air (%): | |
| Upper Flammability Limit: | No data available. |
| Lower Flammability Limit: | No data available. |
| Explosion limits: | No data available. |
| Vapor Pressure | No data available. |
| Vapor Density | No data available. |
| Specific Gravity / Relative Density | 0.7-0.72 |
| Water Solubility | No data available. |
| Solubility in other solvents | No data available. |
| Partition Coefficient | No data available. |
| Decomposition temperature | No data available. |
| pH: | Not applicable |
| Autoignition Temperature | No data available. |
| Kinematic Viscosity | No data available. |
| Dynamic Viscosity | No data available. |
| Explosive Properties | No data available. |
| VOC Content (%) | No data available. |
| Density | 5.9-6.0 lbs/gal |
| Bulk Density | Not applicable. |

10. STABILITY AND REACTIVITY

- Reactivity** The product is non-reactive under normal conditions.
- Chemical stability** The material is stable at 70°F (21°C), 760 mmHg pressure.

| | |
|--|--|
| <u>Possibility of hazardous reactions</u> | None under normal processing. |
| <u>Hazardous polymerization</u> | Will not occur. |
| <u>Conditions to avoid</u> | Excessive heat, sources of ignition, open flame. |
| <u>Incompatible Materials</u> | Strong oxidizing agents. |
| <u>Hazardous decomposition products</u> | None known under normal conditions of use. |

11. TOXICOLOGICAL INFORMATION

Potential short-term adverse effects from overexposures

| | |
|---------------------|--|
| Inhalation | May cause irritation of respiratory tract. May cause drowsiness or dizziness. Breathing high concentrations of this material in a confined space or by intentional abuse can cause irregular heartbeats which can cause death. |
| Eye contact | Exposure to vapor or contact with liquid may cause mild eye irritation, including tearing, stinging, and redness. |
| Skin contact | Causes skin irritation. Effects may become more serious with repeated or prolonged contact. May be absorbed through the skin in harmful amounts. |
| Ingestion | May be fatal if swallowed or vomited and enters airways. May cause irritation of the mouth, throat and gastrointestinal tract. |

Acute toxicological data

| Name | Oral LD50 | Dermal LD50 | Inhalation LC50 |
|---|--------------------|-----------------------|------------------------------------|
| Raffinates (petroleum), catalytic reformer ethylene glycol-water countercurrent exts. 68410-71-9 | > 5000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | > 5 mg/L (Rat) 4 h |
| Paraffins 68551-20-2 | - | - | - |
| n-Hexane 110-54-3 | 15000 mg/kg (Rat) | 3000 mg/kg (Rabbit) | 48000 ppm (Rat) 4 h |
| Xylene (mixed isomers) 1330-20-7 | > 2000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | > 5.04 mg/L (Rat) 4 h |
| 1,2,4-Trimethylbenzene 95-63-6 | 3280 mg/kg (Rat) | > 3160 mg/kg (Rabbit) | 18,000 mg/m ³ (Rat) 4 h |
| Toluene 108-88-3 | > 2000 mg/kg (Rat) | 8390 mg/kg (Rabbit) | 12.5 mg/L (Rat) 4 h |
| Ethylbenzene 100-41-4 | > 2000 mg/kg (Rat) | > 2000 mg/kg (Rabbit) | 17.2 mg/L (Rat) 4 h |

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Altered mental state, drowsiness, peripheral motor neuropathy, irreversible brain damage (so-called Petrol Sniffer's Encephalopathy), delirium, seizures, and sudden death have been reported from repeated overexposure to some hydrocarbon solvents, naphthas, and gasoline.

Lifetime skin painting studies in mice with similar naphthas have shown weak or no carcinogenic activity following prolonged and repeated exposure. Similar naphthas/distillates, when tested at nonirritating dose levels, did not show any significant carcinogenic activity indicating that this tumorigenic response is likely related to chronic irritation and not to dose. The mutagenic potential of naphthas has been reported to be largely negative in a variety of mutagenicity tests. The exact relationship between these results and human health is not known. Some components of this product have been

shown to produce a species specific, sex hormonal dependent kidney lesion in male rats from repeated oral or inhalation exposure. Subsequent research has shown that the kidney damage develops via the formation of a alpha-2μ-globulin, a mechanism unique to the male rat. Humans do not form alpha-2μ-globulin, therefore, the kidney effects resulting from this mechanism are not relevant in humans.

N-HEXANE: Long-term or repeated exposure to n-hexane can cause peripheral nerve damage. Initial symptoms are numbness of the fingers and toes. Also, motor weakness can occur in the digits, but may also involve muscles of the arms, thighs and forearms. The onset of these symptoms may be delayed for several months to a year after the beginning of exposure. Testicular atrophy and partial to full loss of the germ cell line were observed in sub-chronic high-dose inhalation studies of laboratory rodents. These effects appeared irreversible. Rodent reproduction studies have shown evidence of reduced fetal weight but no frank malformations.

XYLENES, ALL ISOMERS: Overexposure to xylene may cause upper respiratory tract irritation, headache, cyanosis, blood serum changes, nervous system damage and narcosis. Effects may be increased by the use of alcoholic beverages. Evidence of liver and kidney impairment were reported in workers recovering from a gross overexposure. Effects from Prolonged or Repeated Exposure: Impaired neurological function was reported in workers exposed to solvents including xylene. Studies in laboratory animals have shown evidence of impaired hearing following high levels of exposure. Studies in laboratory animals suggest some changes in reproductive organs following high levels of exposure but no significant effects on reproduction were observed. Studies in laboratory animals indicate skeletal and visceral malformations, developmental delays, and increased fetal resorptions following extremely high levels of maternal exposure with evidence of maternal toxicity. The relevance of these observations to humans is not clear at this time. Adverse effects on the liver, kidney, bone marrow (changes in blood cell parameters) were observed in laboratory animals following high levels of exposure. The relevance of these observations to humans is not clear at this time.

1,2,4-TRIMETHYLBENZENE: The following information pertains to a mixture of C9 aromatic hydrocarbons, over 40% of which was composed of 1,2,4-trimethylbenzene. A developmental inhalation study was conducted in laboratory mice. Increased implantation losses, reduced fetal weights, delayed ossification and an increased incidence of cleft palate were observed at the highest exposure level (1,500 ppm). This exposure level was extremely toxic to pregnant female mice (44% mortality). Reduced fetal body weights were also observed at 500 ppm. A multi-generation reproduction inhalation study was conducted in laboratory rats. Reductions in pup weights, pup weight gain, litter size, and pup survival were observed at 1,500 ppm, an exposure level at which significant maternal toxicity was observed. Reduced pup weight gain was also observed at 500 ppm. Embryotoxicity has been reported in studies of laboratory animals. Adverse effects included increased implantation losses, reduced fetal weights, delayed ossification and an increased incidence of cleft palate.<n><n>

TOLUENE: Abuse of toluene at high concentrations (e.g., glue sniffing and solvent abuse) has been associated with adverse effects on the liver, kidney and nervous system, and can cause nervous system depression, cardiac arrhythmias, and death. Studies of workers indicate long-term exposure may be related to impaired color vision and hearing. Some studies of workers suggest long-term exposure may be related to neurobehavioral and cognitive changes. Some of these effects have been observed in laboratory animals following repeated exposure to high levels of toluene. Several studies of workers suggest long-term exposure may be related to small increases in spontaneous abortions and changes in some gonadotropic hormones. However, the weight of evidence does not indicate toluene is a reproductive hazard to humans. Studies in laboratory animals indicate some changes in reproductive organs following high levels of exposure, but no significant effects on mating performance or reproduction were observed. Case studies of persons abusing toluene suggest isolated incidences of adverse effects on the fetus including birth defects. Findings in laboratory animals have been largely negative. Positive findings include small increases in minor skeletal and visceral malformations and developmental delays following very high levels of maternal exposure. Studies of workers indicate long

term exposure may be related to effects on the liver, kidney and blood, but these appear to be limited to changes in serum enzymes and decreased leukocyte counts. Adverse effects on the liver, kidney, thymus and nervous system were observed in animal studies following very high levels of exposure. The relevance of these findings to humans is not clear at this time.

ETHYLBENZENE: Findings from a 2-year inhalation study in rodents conducted by NTP were as follows: Effects were observed only at the highest exposure level (750 ppm). At this level the incidence of renal tumors was elevated in male rats (tubular carcinomas) and female rats (tubular adenomas). The incidence of tumors was also elevated in male mice (alveolar and bronchiolar carcinomas) and female mice (hepatocellular carcinomas). IARC has classified ethyl benzene as "possibly carcinogenic to humans" (Group 2B). Studies in laboratory animals indicate some evidence of post-implantation deaths following high levels of maternal exposure. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals indicate limited evidence of renal malformations, resorptions, and developmental delays following high levels of maternal exposure with evidence of maternal toxicity. The relevance of these findings to humans is not clear at this time. Studies in laboratory animals have demonstrated evidence of ototoxicity (hearing loss) following exposure levels as low as 300 ppm for 5 days. Studies in laboratory animals indicate some evidence of adverse effects on the liver, kidney, thyroid, and pituitary gland.

STODDARD SOLVENT: May contain stoddard solvent (mineral spirit), a C9-C13 aliphatic naphtha hydrocarbon solvent (predominately normal, iso- and cyclo-paraffins with <1.0% aromatics). Ninety day and two year inhalation studies of mineral spirits (stoddard solvent) were conducted in mice and rats at concentrations of 138, 275, 550, 1,100 and 2,200 mg/m³. In the 90 day studies, no significant toxicity was observed in rats except for nasal irritation at the highest dose and the previously noted effects in the male rat kidney. No significant toxicity was observed in mice except for slight effects in the spleen of female mice. No evidence of carcinogenic activity was observed in male mice or female rats chronically exposed to stoddard solvent. There was equivocal evidence that stoddard solvent produced benign liver tumors in female mice (an effect associated with increased body weight) and some evidence that stoddard solvent produced adrenal tumors in male rats. This latter effect is believed to be a secondary response to the kidney disease mediated by alpha-2μ-microglobulin.

Adverse effects related to the physical, chemical and toxicological characteristics

Signs and Symptoms

Overexposure to vapors may cause eye, skin and respiratory irritation. May cause nausea, vomiting, diarrhea, and signs of nervous system depression: headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue.

Sensitization

Not expected to be a skin or respiratory sensitizer.

Mutagenic effects

None known.

Carcinogenicity

Cancer designations are listed in the table below

| Name | ACGIH (Class) | IARC (Class) | NTP | OSHA |
|---|-----------------------|----------------------|------------|------------|
| Raffinates (petroleum), catalytic reformer ethylene glycol-water countercurrent exts. 68410-71-9 | Not Listed | Not Listed | Not Listed | Not Listed |
| Paraffins 68551-20-2 | Not Listed | Not Listed | Not Listed | Not Listed |
| n-Hexane 110-54-3 | Not Listed | Not Listed | Not Listed | Not Listed |
| Xylene (mixed isomers) 1330-20-7 | Not classifiable (A4) | Not classifiable (3) | Not Listed | Not Listed |
| 1,2,4-Trimethylbenzene 95-63-6 | Not Listed | Not Listed | Not Listed | Not Listed |
| Toluene | Not Classifiable (A4) | Not Classifiable (3) | Not Listed | Not Listed |

| | | | | |
|--------------------------|-------------------------------------|-----------------------------------|------------|------------|
| 108-88-3 | | | | |
| Ethylbenzene 100-41-4 | Confirmed animal carcinogen (A3) | Possible human carcinogen (2B) | Not Listed | Not Listed |

Reproductive toxicity Suspected of damaging fertility or the unborn child.

Specific Target Organ Toxicity (STOT) - single exposure Central nervous system.

Specific Target Organ Toxicity (STOT) - repeated exposure Nervous system. Auditory system.

Aspiration hazard May be fatal if swallowed or vomited and enters airways.

12. ECOLOGICAL INFORMATION

Ecotoxicity This product should be considered toxic to aquatic organisms, with the potential to cause long lasting adverse effects in the aquatic environment.

| Name | Algae/aquatic plants | Fish | Toxicity to Microorganisms | Crustacea |
|---|------------------------------------|---|----------------------------|--|
| Raffinates (petroleum), catalytic reformer ethylene glycol-water countercurrent exts. 68410-71-9 | - | 96-hr LL50 = 1-10 mg/l Fish | - | 48-hr EL50 = 1-10 mg/l Daphnia |
| Paraffins 68551-20-2 | - | - | - | - |
| n-Hexane 110-54-3 | - | 96-hr LC50 = 2.5 mg/l Fathead minnow | - | - |
| Xylene (mixed isomers) 1330-20-7 | 72-hr EC50 = 11 mg/l Algae | 96-hr LC50 = 8 mg/l Rainbow trout | - | 48-hr LC50 = 3.82 mg/l Daphnia magna |
| 1,2,4-Trimethylbenzene 95-63-6 | - | 96-hr LC50 = 7.19-8.28 mg/l Fathead minnow (flow-through) | - | 48-hr EC50 = 6.14 mg/L Daphnia magna |
| Toluene 108-88-3 | 72-hr EC50 = 12.5 mg/l Algae | 96-hr LC50 <= 10 mg/l Rainbow trout | - | 48-hr EC50 = 5.46-9.83 mg/l Daphnia magna 48-hr EC50 = 11.5 mg/l Daphnia magna (Static) |
| Ethylbenzene 100-41-4 | 72-hr EC50 = 1.7-7.6 mg/l Algae | 96-hr LC50 = 4 mg/L Rainbow trout | - | 48-hr EC50 = 1-4 mg/L Daphnia magna |

Persistence and degradability Expected to be inherently biodegradable.

Bioaccumulation Has the potential to bioaccumulate.

Mobility in soil May partition into air, soil and water.

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Description of Waste Residues
This material may be a flammable liquid waste.

Safe Handling of Wastes
Handle in accordance with applicable local, state, and federal regulations. Use personal protection measures as required. Use appropriate grounding and bonding practices. Use only non-sparking tools. Do not expose to heat, open flames, strong oxidizers or other sources of ignition. No smoking.

Disposal of Wastes / Methods of Disposal
The user is responsible for determining if any discarded material is a hazardous waste (40 CFR 262.11). Dispose of in accordance

with federal, state and local regulations.

Methods of Contaminated Packaging Disposal

Empty containers should be completely drained and then discarded or recycled, if possible. Do not cut, drill, grind or weld on empty containers since explosive residues may be present. Dispose of in accordance with federal, state and local regulations.

14. TRANSPORT INFORMATION

DOT (49 CFR 172.101):

UN Proper Shipping Name: Petroleum Distillates, N.O.S.
UN/Identification No: UN 1268
Class: 3
Packing Group: II

TDG (Canada):

UN Proper Shipping Name: Petroleum Distillates, N.O.S.
UN/Identification No: UN 1268
Transport Hazard Class(es): 3
Packing Group: II

15. REGULATORY INFORMATION

US Federal Regulatory Information:

US TSCA Chemical Inventory Section 8(b): This product and/or its components are listed on the TSCA Chemical Inventory.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product does not contain any component(s) included on EPA's Extremely Hazardous Substance (EHS) List.

| Name | CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs |
|---|---|
| Raffinates (petroleum), catalytic reformer ethylene glycol-water countercurrent exts. | NA |
| Paraffins | NA |
| n-Hexane | NA |
| Xylene (mixed isomers) | NA |
| 1,2,4-Trimethylbenzene | NA |
| Toluene | NA |
| Ethylbenzene | NA |

SARA Section 304: This product may contain component(s) identified either as an EHS or a CERCLA Hazardous substance which in case of a spill or release may be subject to SARA reporting requirements:

| Name | Hazardous Substances RQs |
|---|-------------------------------------|
| Raffinates (petroleum), catalytic reformer ethylene glycol-water countercurrent exts. | NA |
| Paraffins | NA |
| n-Hexane | 5000 |
| Xylene (mixed isomers) | 100 |
| 1,2,4-Trimethylbenzene | NA |
| Toluene | 1000 lb final RQ 454 kg final RQ |
| Ethylbenzene | 1000 |

SARA Section 311/312: The following EPA hazard categories apply to this product:

Acute Health Hazard

Chronic Health Hazard
Fire Hazard

SARA Section 313: This product may contain component(s), which if in exceedance of the de minimus threshold, may be subject to the reporting requirements of SARA Title III Section 313 Toxic Release Reporting (Form R).

| Name | CERCLA/SARA 313 Emission reporting: |
|---|-------------------------------------|
| Raffinates (petroleum), catalytic reformer ethylene glycol-water countercurrent exts. | None |
| Paraffins | None |
| n-Hexane | 1.0 % de minimis concentration |
| Xylene (mixed isomers) | 1.0 % de minimis concentration |
| 1,2,4-Trimethylbenzene | 1.0 % de minimis concentration |
| Toluene | 1.0 % de minimis concentration |
| Ethylbenzene | 0.1 % de minimis concentration |

State and Community Right-To-Know Regulations:

The following component(s) of this material are identified on the regulatory lists below:

Raffinates (petroleum), catalytic reformer ethylene glycol-water countercurrent exts.

| | |
|---|------------|
| Louisiana Right-To-Know: | Not Listed |
| California Proposition 65: | Not Listed |
| New Jersey Right-To-Know: | Not Listed |
| Pennsylvania Right-To-Know: | Not Listed |
| Massachusetts Right-To Know: | Not Listed |
| Florida Substance List: | Not Listed |
| Rhode Island Right-To-Know: | Not Listed |
| Michigan Critical Materials Register List: | Not Listed |
| Massachusetts Extraordinarily Hazardous Substances: | Not Listed |
| California - Regulated Carcinogens: | Not Listed |
| Pennsylvania RTK - Special Hazardous Substances: | Not Listed |
| New Jersey - Special Hazardous Substances: | Not Listed |
| New Jersey - Environmental Hazardous Substances List: | Not Listed |
| Illinois - Toxic Air Contaminants: | Not Listed |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | Not Listed |

Paraffins

| | |
|---|------------|
| Louisiana Right-To-Know: | Not Listed |
| California Proposition 65: | Not Listed |
| New Jersey Right-To-Know: | Not Listed |
| Pennsylvania Right-To-Know: | Not Listed |
| Massachusetts Right-To Know: | Not Listed |
| Florida Substance List: | Not Listed |
| Rhode Island Right-To-Know: | Not Listed |
| Michigan Critical Materials Register List: | Not Listed |
| Massachusetts Extraordinarily Hazardous Substances: | Not Listed |
| California - Regulated Carcinogens: | Not Listed |
| Pennsylvania RTK - Special Hazardous Substances: | Not Listed |
| New Jersey - Special Hazardous Substances: | Not Listed |
| New Jersey - Environmental Hazardous Substances List: | Not Listed |
| Illinois - Toxic Air Contaminants: | Not Listed |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | Not Listed |

n-Hexane

| | |
|----------------------------|------------|
| Louisiana Right-To-Know: | Not Listed |
| California Proposition 65: | Not Listed |

| | |
|---|--|
| New Jersey Right-To-Know: | SN 1340 |
| Pennsylvania Right-To-Know: | Present |
| Massachusetts Right-To Know: | Present |
| Florida Substance List: | Not Listed |
| Rhode Island Right-To-Know: | Toxic; Flammable |
| Michigan Critical Materials Register List: | Not Listed |
| Massachusetts Extraordinarily Hazardous Substances: | Not Listed |
| California - Regulated Carcinogens: | Not Listed |
| Pennsylvania RTK - Special Hazardous Substances: | Not Listed |
| New Jersey - Special Hazardous Substances: | Flammable - third degree |
| New Jersey - Environmental Hazardous Substances List: | SN 1340 TPQ: 500 lb |
| Illinois - Toxic Air Contaminants: | Present |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | 1 lb RQ (air); 1 lb RQ (land/water) |
| Xylene (mixed isomers) | |
| Louisiana Right-To-Know: | Not Listed |
| California Proposition 65: | Not Listed |
| New Jersey Right-To-Know: | SN 2014 |
| Pennsylvania Right-To-Know: | Environmental hazard |
| Massachusetts Right-To Know: | Present |
| Florida Substance List: | Not Listed |
| Rhode Island Right-To-Know: | Toxic (skin); Flammable (skin) |
| Michigan Critical Materials Register List: | 100 lb Annual usage threshold all isomers |
| Massachusetts Extraordinarily Hazardous Substances: | Not Listed |
| California - Regulated Carcinogens: | Not Listed |
| Pennsylvania RTK - Special Hazardous Substances: | Not Listed |
| New Jersey - Special Hazardous Substances: | Flammable - third degree |
| New Jersey - Environmental Hazardous Substances List: | SN 2014 TPQ: 500 lb |
| Illinois - Toxic Air Contaminants: | Present |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | 1000 lb RQ (air); 1 lb RQ (land/water) |
| 1,2,4-Trimethylbenzene | |
| Louisiana Right-To-Know: | Not Listed |
| California Proposition 65: | Not Listed |
| New Jersey Right-To-Know: | SN 1929 |
| Pennsylvania Right-To-Know: | Present |
| Massachusetts Right-To Know: | Present |
| Florida Substance List: | Not Listed |
| Rhode Island Right-To-Know: | Toxic |
| Michigan Critical Materials Register List: | Not Listed |
| Massachusetts Extraordinarily Hazardous Substances: | Not Listed |
| California - Regulated Carcinogens: | Not Listed |
| Pennsylvania RTK - Special Hazardous Substances: | Not Listed |
| New Jersey - Special Hazardous Substances: | Not Listed |
| New Jersey - Environmental Hazardous Substances List: | Not Listed |
| Illinois - Toxic Air Contaminants: | Present |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | Not Listed |
| Toluene | |
| Louisiana Right-To-Know: | Not Listed |
| California Proposition 65: | Developmental toxicity, initial date 1/1/91 Female reproductive toxicity, initial date 8/7/09 |
| New Jersey Right-To-Know: | SN 1866 |
| Pennsylvania Right-To-Know: | Environmental hazard |
| Massachusetts Right-To Know: | Present |

| | |
|---|--|
| Florida Substance List: | Not Listed |
| Rhode Island Right-To-Know: | Toxic (skin); Flammable (skin) |
| Michigan Critical Materials Register List: | 100 lb Annual usage threshold |
| Massachusetts Extraordinarily Hazardous Substances: | Not Listed |
| California - Regulated Carcinogens: | Not Listed |
| Pennsylvania RTK - Special Hazardous Substances: | Not Listed |
| New Jersey - Special Hazardous Substances: | Flammable - third degree; Teratogen |
| New Jersey - Environmental Hazardous Substances List: | SN 1866 TPQ: 500 lb |
| Illinois - Toxic Air Contaminants: | Present |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | 1000 lb RQ (air); 1 lb RQ (land/water) |

Ethylbenzene

| | |
|---|--|
| Louisiana Right-To-Know: | Not Listed |
| California Proposition 65: | Carcinogen, initial date 6/11/04 |
| New Jersey Right-To-Know: | SN 0851 |
| Pennsylvania Right-To-Know: | Environmental hazard |
| Massachusetts Right-To-Know: | Present |
| Florida Substance List: | Not Listed |
| Rhode Island Right-To-Know: | Toxic; Flammable |
| Michigan Critical Materials Register List: | Not Listed |
| Massachusetts Extraordinarily Hazardous Substances: | Not Listed |
| California - Regulated Carcinogens: | Not Listed |
| Pennsylvania RTK - Special Hazardous Substances: | Not Listed |
| New Jersey - Special Hazardous Substances: | Carcinogen; flammable - Third degree |
| New Jersey - Environmental Hazardous Substances List: | SN 0851 TPQ: 500 lb |
| Illinois - Toxic Air Contaminants: | Present |
| New York - Reporting of Releases Part 597 - List of Hazardous Substances: | 1000 lb RQ (air); 1 lb RQ (land/water) |

Canada DSL/NDL Inventory: This product and/or its components are listed either on the Domestic Substances List (DSL) or are exempt.

Canadian Regulatory Information: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all of the information required by those regulations.

| Name | Canada - WHMIS: Classifications of Substances: | Canada - WHMIS: Ingredient Disclosure: |
|---|--|--|
| Raffinates (petroleum), catalytic reformer ethylene glycol-water countercurrent exts. | B2,D2A,D2B | 0.1% |
| n-Hexane | B2,D2A,D2B | 1% |
| Xylene (mixed isomers) | B2,D2A,D2B | m-, o-isomers 1.0%; p-isomer 0.1% |
| 1,2,4-Trimethylbenzene | B3,D2B | 1% |
| Toluene | B2,D2A,D2B | 0.1% |
| Ethylbenzene | B2,D2A,D2B | 0.1% |



Note: Not applicable.

16. OTHER INFORMATION

Prepared By Toxicology and Product Safety

Revision Notes

Revision Date 05/21/2015

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is intended as guidance for safe handling, use, processing, storage, transportation, accidental release, clean-up and disposal and is not considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.