Emergency Overview

Physical State Liquid.
Color Transparent, colorless.
Odor Characteristic hydrocarbon solvent odor.

WARNING!
Combustible liquid and vapor. - Can cause flash fire.
Harmful or fatal if swallowed - can enter lungs and cause damage.
Mist or vapor can irritate the respiratory tract.
Liquid contact can cause eye or skin irritation.
Overexposure can cause central nervous system (CNS) depression and/or other target organ effects.
Harmful to aquatic organisms.

SECTION 1. PRODUCT IDENTIFICATION

Trade Name STODDARD SOLVENT Regular Mineral Spirits (RMS) Technical Contact (440) 324-5025 (8am - 4pm CT M-F)
Product
CAS Number 8052-41-3 CHEMTREC Emergency (United States Only) (800) 424-9300
Product Family Petroleum hydrocarbon solvent
Synonyms Petroleum hydrocarbon solvent; Stoddard Solvent Mineral Spirits; Type IB Mineral Spirits (meets ASTM D-235 Type 1B specifications); Stoddard Solvent; Type 1 Hydrocarbon Drycleaning Solvent (meets ASTM D-484 Type 1 specifications); White Spirits (meets Dry Cleaning Fluid Specification PD680 Type I);

SECTION 2. COMPOSITION

This product may be composed, in whole or in part, of any of the following refinery streams:

Heavy hyrodesulfurized naphtha (petroleum) [CAS No.: 64742-82-1]
Petroleum hydrocarbon distillates [CAS No.: 8052-41-3]

This product contains the following chemicals as components of the refinery streams listed above:

<table>
<thead>
<tr>
<th>Component Name(s)</th>
<th>CAS Registry No.</th>
<th>Concentration (%)</th>
</tr>
</thead>
</table>

Hazard Rankings

<table>
<thead>
<tr>
<th>HMIS</th>
<th>NFPA</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

* = Chronic Health Hazard
Regular Mineral Spirits (RMS)

Nonane, all isomers  Mixture.  10 - 20
Ethylmethylbenzene, all isomers  25550-14-5  1 - 10
Trimethylbenzenes, all isomers  25551-13-7  <5
1, 2, 4 Trimethylbenzene  95-63-6  <5
n-Propylbenzene  103-65-1  <2
Cumene  98-82-8  <1
Xylene, all isomers  1330-20-7  <0.4
Naphthalene  91-20-3  <0.3
Ethylbenzene  100-41-4  <0.2

SECTION 3. HAZARDS IDENTIFICATION

Also see Emergency Overview and Hazard Ratings on the top of Page 1 of this MSDS.

Major Route(s) of Entry  Skin contact. Inhalation.

Signs and Symptoms of Acute Exposure

Inhalation  Breathing high concentrations may be harmful. Mist or vapor can irritate the throat and lungs. Breathing this material may cause central nervous system depression with symptoms including nausea, headache, dizziness, fatigue, drowsiness, or unconsciousness. Breathing high concentrations of this material, for example, in an enclosed space or by intentional abuse, can cause irregular heartbeats which can cause death.

Eye Contact  This product can cause transient mild eye irritation with short-term contact with liquid sprays or mists. Symptoms include stinging, watering, redness, and swelling.

Skin Contact  This product can cause mild, transient skin irritation with short-term exposure. The degree of irritation will depend on the amount of material that is applied to the skin and the speed and thoroughness that it is removed. Symptoms include redness, itching, and burning of the skin. Repeated or prolonged skin contact can produce moderate irritation (dermatitis).

Ingestion  If swallowed, this material may irritate the mucous membranes of the mouth, throat, and esophagus. It can be readily absorbed by the stomach and intestinal tract. Symptoms include a burning sensation of the mouth and esophagus, nausea, vomiting, dizziness, staggering gait, drowsiness, loss of consciousness, and delirium, as well as additional central nervous system (CNS) effects. Due to its light viscosity, there is a danger of aspiration into the lungs during vomiting. Aspiration can result in severe lung damage or death.

Chronic Health Effects  Chronic effects of ingestion and subsequent aspiration into the lungs may cause pneumatocele (lung cavity) formation and chronic lung dysfunction.

Reports have associated repeated and prolonged occupational overexposure to solvents with irreversible brain and nervous system damage (sometimes referred to as "Solvent or Painter's Syndrome"). Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.

Conditions Aggravated by Exposure  Disorders of the following organs or organ systems that may be aggravated by significant exposure to this material or its components include: Skin, Respiratory System, Central Nervous System (CNS)

Target Organs  May cause damage to the following organs: kidneys, lungs, liver, mucous membranes, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea

Carcinogenic Potential  This material may contain ethylbenzene and naphthalene at concentrations above 0.1%. IARC has identified ethylbenzene and naphthalene as possibly carcinogenic to humans (Group 2B) based on laboratory animal studies.
Regular Mineral Spirits (RMS)

OSHA Hazard Classification is indicated by an "X" in the box adjacent to the hazard title. If no "X" is present, the product does not exhibit the hazard as defined in the OSHA Hazard Communication Standard (29 CFR 1910.1200).

<table>
<thead>
<tr>
<th>OSHA Health Hazard Classification</th>
<th>OSHA Physical Hazard Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Irritant X</td>
<td>Sensitizer</td>
</tr>
<tr>
<td>Toxic</td>
<td>Highly Toxic</td>
</tr>
<tr>
<td>Corrosive</td>
<td>Carcinogenic</td>
</tr>
<tr>
<td>Combustible X</td>
<td>Explosive</td>
</tr>
<tr>
<td>Pyrophoric</td>
<td></td>
</tr>
<tr>
<td>Water-reactive</td>
<td></td>
</tr>
<tr>
<td>Flammable</td>
<td></td>
</tr>
<tr>
<td>Oxidizer</td>
<td></td>
</tr>
<tr>
<td>Compressed Gas</td>
<td></td>
</tr>
<tr>
<td>Organic Peroxide</td>
<td></td>
</tr>
<tr>
<td>Unstable</td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES

Take proper precautions to ensure your own health and safety before attempting rescue or providing first aid. For more specific information, refer to Exposure Controls and Personal Protection in Section 8 of this MSDS.

Inhalation
Move victim to fresh air. If victim is not breathing, immediately begin rescue breathing. If breathing is difficult, 100 percent humidified oxygen should be administered by a qualified individual. Seek medical attention immediately. Keep the affected individual warm and at rest.

Eye Contact
Check for and remove contact lenses. Flush eyes with cool, clean, low-pressure water for at least 15 minutes while occasionally lifting and lowering eyelids. Do not use eye ointment unless directed to by a physician. Seek medical attention if excessive tearing, irritation, or pain persists.

Skin Contact
Remove contaminated shoes and clothing. Flush affected area with large amounts of water. If skin surface is damaged, apply a clean dressing and seek medical attention. Do not use ointments. If skin surface is not damaged, clean affected area thoroughly with mild soap and water. Seek medical attention if tissue appears damaged or if pain or irritation persists.

Ingestion
Do not induce vomiting. If spontaneous vomiting is about to occur, place victim’s head below knees. If victim is drowsy or unconscious, place on the left side with head down. Never give anything by mouth to a person who is not fully conscious. Do not leave victim unattended. Seek medical attention immediately.

Notes to Physician
INHALATION: Inhalation overexposure can produce toxic effects. Monitor for respiratory distress. If cough or difficulty in breathing develops, evaluate for upper respiratory tract inflammation, bronchitis, and pneumonitis. Administer supplemental oxygen with assisted ventilation, as required.

This material (or a component) sensitizes the heart 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: If ingested, this material presents a significant aspiration and chemical pneumonitis hazard. Induction of emesis is not recommended. Consider activated charcoal and/or gastric lavage. If patient is obtunded, protect the airway by cuffed endotracheal intubation or by placement of the body in a Trendelenburg and left lateral decubitus position.
SECTION 5. FIRE FIGHTING MEASURES

NFPA Flammability Classification
NFPA Class-II combustible liquid.

Flash Point
Closed cup: 42°C (108°F). (Tagliabue (ASTM D-56))

Lower Flammable Limit AP 0.5 %
Upper Flammable Limit AP 6 %

Autoignition Temperature
230°C (446°F)

Hazardous Combustion Products
Carbon dioxide, carbon monoxide, smoke, fumes, unburned hydrocarbons and trace oxides of sulfur and/or nitrogen.

Special Properties
Combustible Liquid! This material releases vapors when heated above ambient temperatures. Vapors can cause a flash fire. Vapors can travel to a source of ignition and flashback. A vapor and air mixture can create an explosion hazard in confined spaces such as sewers. Use only with adequate ventilation. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media
SMALL FIRE: Use dry chemicals, carbon dioxide, foam, water fog, or inert gas (nitrogen). LARGE FIRE: Use foam, water fog, or water spray. Water May Be Ineffective. Water may not extinguish the fire. Water fog and spray are effective in cooling containers and adjacent structures. However, water can be used to cool the external walls of vessels to prevent excessive pressure, autoignition or explosion. DO NOT use a solid stream of water directly on the fire as the water may spread the fire to a larger area.

Protection of Fire Fighters
Firefighters must use full bunker gear including NIOSH-approved positive pressure self-contained breathing apparatus to protect against potential hazardous combustion or decomposition products and oxygen deficiencies. Evacuate area and fight the fire from a maximum distance or use unmanned hose holders or monitor nozzles. Cover pooling liquid with foam. Containers can build pressure if exposed to radiant heat; cool adjacent containers with flooding quantities of water until well after the fire is out. Withdraw immediately from the area if there is a rising sound from a venting safety device or discoloration of vessels, tanks, or pipelines. Be aware that burning liquid will float on water. Notify appropriate authorities if liquid enter sewers or waterways.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Take proper precautions to ensure your own health and safety before attempting spill control or clean-up. For more specific information, refer to the Emergency Overview on Page 1, Exposure Controls and Personal Protection in Section 8 and Disposal Considerations in Section 13 of this MSDS.

Combustible Liquid! Release can result in a fire hazard. Evacuate all non-essential personnel from release area. Establish a regulated zone with site control and security. Eliminate all ignition sources. Stop the leak if it can done without risk. A vapor-suppressing foam may be used to reduce vapors. Properly bond or ground all equipment used when handling this material. Avoid skin contact. Do not walk through spilled material. Verify that responders are properly trained and wearing appropriate personnel protective equipment. Dike far ahead of a liquid spills. Do not allow released material to entry waterways, sewers, basements, or confined areas. This material will float on water. Absorb or cover with dry earth, sand or other non-combustible material. Use clean, non-sparking tools to collect absorbed material. Place spent sorbent materials, free liquids and other clean-up debris into proper waste containers for appropriate disposal. Certain releases must be reported to the National Response Center (800/424-8802) and state or regulatory authorities. Comply with all laws and regulations.
SECTION 7. HANDLING AND STORAGE

Handling

Combustible Liquid!
A static electrical charge can accumulate when this material is flowing through pipes, nozzles or filters and when it is agitated. A static spark discharge can ignite accumulated vapors particularly during dry weather conditions. Always bond receiving containers to the fill pipe before and during loading. Always keep nozzle in contact with the container throughout the loading process. Do not fill any portable container in or on a vehicle. Special precautions, such as reduced loading rates and increased monitoring, must be observed during "switch loading" operations (i.e., loading this material in tanks or shipping compartments that previously containing gasoline or similar low flash point products).

Fire hazard increases as product temperature approaches its flash point. Keep container closed and drum bungs in place. Remove spillage immediately from walking areas. Do not handle or store near heat, sparks or other potential ignition sources. Do not handle or store with oxidizing agents. Avoid breathing mist or vapor. Never siphon by mouth. Do not taste or swallow. Avoid contact with eyes, skin and clothing. Use gloves constructed of impervious materials and protective clothing if direct contact is anticipated. Provide ventilation to maintain exposure potential below applicable exposure levels. Avoid water contamination. Wash thoroughly after handling. Prevent contact with food or tobacco products.

When performing repairs and maintenance on contaminated equipment, keep unnecessary persons from hazard area. Eliminate heat, flame and other potential ignition sources. Drain and purge equipment, as necessary, to remove material residues. Remove contaminated clothing. Wash exposed skin thoroughly with soap and water after handling.

Protect the environment from releases of this material. Prevent discharges to surface waters and groundwater. Maintain handling and transfer equipment in proper working order.

Misuse of empty containers can be dangerous. Empty containers may contain material residues which can ignite with explosive force. Cutting or welding of empty containers can cause fire, explosion, or release of toxic fumes from residues. Do not pressurize or expose empty containers to open flame, sparks, or heat. Keep container closed and drum bungs in place. All label warnings and precautions must be observed. Return empty drums to a qualified reconditioner. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling, or disposing of empty containers and/or waste residues of this material.

Storage

Store in a cool, dry, well-ventilated place. Keep containers tightly closed. Do not store this product near heat, flame or other potential ignition sources. Do not store with oxidizers. Do not store this product in unlabeled containers. Do not puncture or incinerate containers. Ground all equipment containing this material. All electrical equipment in areas where this material is stored or handled must meet all applicable requirements of the NFPA's National Electrical Code (NEC). Store and transport in accordance with all applicable laws.

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Engineering Controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapor or mists below the applicable workplace exposure limits indicated below. All electrical equipment should comply with the National Electric Code. An emergency eye wash station and safety shower should be located near the work-station.

Personal Protective Equipment

Personal protective equipment should be selected based upon the conditions under which this material is used. A hazard assessment of the work area for PPE requirements should be conducted by a qualified professional pursuant to OSHA regulations. The following pictograms represent the minimum requirements for personal protective equipment. For certain operations, additional PPE may be required.
Regular Mineral Spirits (RMS)

Safety glasses equipped with side shields are recommended as minimum protection in industrial settings. Chemical goggles should be worn during transfer operations or when there is a likelihood of misting, splashing, or spraying of this material. Suitable eye wash water should be readily available.

Avoid skin contact. Use heavy duty gloves constructed of chemical resistant materials such as Viton® or heavy nitrile rubber. Wash hands with plenty of mild soap and water before eating, drinking, smoking, use of toilet facilities or leaving work. DO NOT use gasoline, kerosene, solvents or harsh abrasives as skin cleaners.

Avoid skin contact. Wear long-sleeved fire-retardant garments (e.g., Nomex®) while working with flammable and combustible liquids. Additional chemical-resistant protective gear may be required if splashing or spraying conditions exist. This may include an apron, boots and additional facial protection. If product comes in contact with clothing, immediately remove soaked clothing and shower. Promptly remove and discarded contaminated leather goods.

Airborne concentration will determine the level of respiratory protection required. Respiratory protection is normally not required unless the product is heated or misted. For known or anticipated vapor or mist concentrations above the occupational exposure guidelines (see below), use a NIOSH-approved organic vapor respirator equipped with a dust/mist prefilter if adequate protection is provided. For unknown vapor concentrations or concentrations exceeding respirator protection factors, use a positive-pressure, pressure-demand, self-contained breathing apparatus (SCBA). Due to fire and explosion hazards, do not enter atmospheres containing concentrations greater than 20% of the lower flammable limit under any circumstances. Protection factors vary depending upon the type of respirator used. Respirators should be used in accordance with OSHA requirements (29 CFR 1910.134).

Warning! Use of this material in spaces without adequate ventilation may result in generation of hazardous levels of combustion products and/or inadequate oxygen levels for breathing. Odor is an inadequate warning for hazardous conditions.

### Occupational Exposure Guidelines

<table>
<thead>
<tr>
<th>Substance</th>
<th>Applicable Workplace Exposure Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Petroleum hydrocarbon distillates</td>
<td>ACGIH TLV (United States). TWA: 100 ppm 8 hour(s).</td>
</tr>
<tr>
<td></td>
<td>OSHA PEL Z2 (United States). TWA: 500 ppm 8 hour(s).</td>
</tr>
<tr>
<td>Nonane, all isomers</td>
<td>ACGIH (United States). TWA: 200 ppm 8 hour(s).</td>
</tr>
<tr>
<td>Trimethylbenzenes, all isomers</td>
<td>ACGIH (United States). TWA: 25 ppm 8 hour(s).</td>
</tr>
<tr>
<td>Cumene</td>
<td>ACGIH (United States). TWA: 50 ppm 8 hour(s).</td>
</tr>
<tr>
<td></td>
<td>OSHA (United States). Skin TWA: 50 ppm 8 hour(s).</td>
</tr>
<tr>
<td>Xylene, all isomers</td>
<td>ACGIH (United States). TWA: 100 ppm 8 hour(s).</td>
</tr>
<tr>
<td></td>
<td>STEL: 150 ppm 15 minute(s).</td>
</tr>
<tr>
<td></td>
<td>OSHA (United States). TWA: 100 ppm 8 hour(s).</td>
</tr>
<tr>
<td></td>
<td>STEL: 15 ppm 15 minute(s).</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>ACGIH (United States). Skin TWA: 10 ppm 8 hour(s).</td>
</tr>
<tr>
<td></td>
<td>STEL: 15 ppm 15 minute(s).</td>
</tr>
</tbody>
</table>
Regular Mineral Spirits (RMS)

OSHA (United States).
TWA: 10 ppm 8 hour(s).

ACGIH (United States).
TWA: 100 ppm 8 hour(s).
STEL: 125 ppm 15 minute(s).

OSHA (United States).
TWA: 100 ppm 8 hour(s).

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES (TYPICAL)

<table>
<thead>
<tr>
<th>Physical State</th>
<th>Color</th>
<th>Odor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Liquid</td>
<td>Transparent, colorless</td>
<td>Characteristic hydrocarbon solvent odor.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Specific Gravity</th>
<th>pH</th>
<th>Vapor Density</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.78 (Water = 1)</td>
<td>Not Applicable.</td>
<td>4.7 (Air = 1)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Boiling Range</th>
<th>Melting/Freezing Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>148 to 204°C (298 to 400°F)</td>
<td>Not available.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Vapor Pressure</th>
<th>Volatility</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.22 mm Hg at 20°C (68°F ) using an Isoteniscope.</td>
<td>784 g/l VOC (w/v)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Solubility in Water</th>
<th>Viscosity (cSt @ 40°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Slightly soluble in cold water (&lt; 0.01%).</td>
<td>not available</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Flash Point</th>
<th>Additional Properties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Closed cup: 42°C (108°F). (Tagliabue (ASTM D-56))</td>
<td>Paraffin, Isoparaffin and Cycloparaffin Hydrocarbons Content = &gt;80 Wt.% (ASTM D-1319); Aromatic Hydrocarbon Content = &lt;20 Wt. % (ASTM D-1319); Average Density at 60°F = 6.53 lbs./gal. (Calculated via ASTM D-287); Aniline Cloud Point Temperature = 130°F (54°C) (ASTM D-611); Kauri-Butanol (KB) Value = 38 (ASTM D-1133) Dry Point Temperature = 400°F (204°C) (ASTM D-86, D-850 or D-1078); Evaporation Rate = 0.12 (n-Butyl acetate = 1.0); Heat Value = 19,668 Btu. per pound</td>
</tr>
</tbody>
</table>

SECTION 10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Chemical Stability Conditions to Avoid</th>
<th>Hazardous Polymerization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stable.</td>
<td>Not expected to occur.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Materials Incompatibility</th>
<th>Hazardous Decomposition Products</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong acids, alkalies, and oxidizers such as liquid chlorine, other halogens, hydrogen peroxide and oxygen.</td>
<td>No additional hazardous decomposition products were identified other than the combustion products identified in Section 5 of this MSDS.</td>
</tr>
</tbody>
</table>

SECTION 11. TOXICOLOGICAL INFORMATION

For other health-related information, refer to the Emergency Overview on Page 1 and the Hazards Identification in Section 3 of this MSDS.
Regular Mineral Spirits (RMS)

**Toxicity Data**

**Petroleum hydrocarbon distillates:**
- Dermal, Acute LD_{50} (rabbit): >3000 mg/kg
- Inhalation, Acute LC_{50} (rat): >5.5 mg/l (8 hours)

Studies on laboratory animals have associated similar materials with eye and respiratory tract irritation. Studies on laboratory animals have shown similar materials to cause skin irritation after repeated or prolonged contact. Repeated direct application of Stoddard Solvent to the skin can produce defatting dermatitis and kidney damage in laboratory animals. Rats developed kidney damage and elevated blood urea nitrogen levels when exposed to a concentration of 1.9 mg/L for 65 days. The kidney damage occurred only in male rats and appeared to involve both the tubules and glomeruli. The significance of these animal study results to human health is unclear.

**Trimethylbenzenes, all isomers:**

The TCLo for humans is 10 ppm, with somnolence and respiratory tract irritation noted. In inhalation studies with rats, four of ten animals died after exposures of 2400 ppm for 24 hours. An oral dose of 5 mL/kg resulted in death in one of ten rats. Minimum lethal intraperitoneal doses were 1.5 to 2.0 mL/kg in rats and 1.13 to 12 mL/kg in guinea pigs. Levels of total hydrocarbon vapors present in the breathing atmosphere of these workers ranged from 10 to 60 ppm. Mesitylene (1, 3, 5 Trimethylbenzene) inhalation at concentrations of 1.5, 3.0, and 6.0 mg/L for six hours was associated with dose-related changes in white blood cell counts in rats. No significant effects on the complete blood count were noted with six hours per day exposure for five weeks, but elevations of alkaline phosphatase and SGOT were observed. Central nervous system depression and ataxia were noted in rats exposed to 5,100 to 9,180 ppm for two hours.

**Naphthalene:**

Studies in Humans Overexposed to Naphthalene:
Severe jaundice, neurotoxicity (kernicterus) and fatalities have been reported in young children and infants as a result of hemolytic anemia from over-exposure to naphthalene. Persons with Glucose 6-phosphate dehydrogenase (G6PD) deficiency are more prone to the hemolytic effects of naphthalene. Adverse effects on the kidney have also been reported from over-exposure to naphthalene but these effects are believed to be a consequence of hemolytic anemia, and not a direct effect.

Studies in Laboratory Animals:
Hemolytic anemia has been observed in laboratory animals exposed to naphthalene. Laboratory rodents exposed to naphthalene vapor for 2 years (lifetime studies) developed non-neoplastic and neoplastic tumors and inflammatory lesions of the nasal and respiratory tract. Cataracts and other adverse effects on the eye have been observed in laboratory animals exposed to high levels of naphthalene. Findings from a large number of bacterial and mammalian cell mutation assays have been negative. A few studies have shown chromosomal effects (elevated levels of Sister Chromatid Exchange or chromosomal aberrations) in vitro.

**Ethylbenzene:**

Effects from Acute Exposure:
- ORAL (LD_{50}), Acute: 3,500 mg/kg [Rat].
- DERMAL (LD_{50}), Acute: 17,800 uL/kg [Rabbit].
- INTRAPERITONEAL (LD_{50}), Acute: 2,624 mg/kg [Rat].

Effects from Prolonged or Repeated Exposure:
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). Also, the incidence of tumors was 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
Regular Mineral Spirits (RMS)
laboratory animals indicate limited evidence of renal malformations, resorptions, and
developmental delays following high levels of maternal exposure. The relevance of these
findings to humans is not clear at this time. Studies in laboratory animals indicate some
evidence of adverse effects on the liver, kidney, thyroid, and pituitary gland.

TSCA Inventory
SARA 302/304
Emergency Planning and Notification
Ecotoxicity
This mixture contains components that are potentially toxic to freshwater and saltwater ecosystems.

Environmental Fate
This product will normally float on water. Components will evaporate rapidly. This material
may be harmful to aquatic organisms and may cause long term adverse effects in the aquatic
environment. The log Kow value for this product is expected to be in the range of 3.3 to 6.

SECTION 12. ECOLOGICAL INFORMATION

SECTION 13. DISPOSAL CONSIDERATIONS

Hazard characteristic and regulatory waste stream classification can change with product use. Accordingly, it is
the responsibility of the user to determine the proper storage, transportation, treatment and/or disposal
methodologies for spent materials and residues at the time of disposition.

Conditions of use may cause this material to become a hazardous waste, as defined by
Federal or State regulations. It is the responsibility of the user to determine if the material is
a hazardous waste at the time of disposal. Potential treatment and disposal methods include
land farming and incineration. Transportation, treatment, storage and disposal of waste
material must be conducted in accordance with RCRA regulations (see 40 CFR 260 through
40 CFR 271). Contact your regional US EPA office for guidance concerning case specific
disposal issues. State and/or local regulations may be more restrictive.

SECTION 14. TRANSPORT INFORMATION

The shipping description below may not represent requirements for all modes of transportation, shipping
methods or locations outside of the United States.

US DOT Status
A U.S. Department of Transportation (DOT) regulated material.

Proper Shipping Name Petroleum Distillates, n.o.s. (Naphtha Solvent), 3, UN1268 PG III

Hazard Class
DOT Class: 3 (Flammable liquid). Packing Group(s) PG III

Reportable Quantity
RQ 25,000 lbs. (3,800 gallons) [Based upon maximum Xylene concentration of 0.4% and an
RQ of 100 lbs.]

Placard(s)

SECTION 15. REGULATORY INFORMATION

This product and/or its components are listed on the Toxic Substances Control Act (TSCA)
inventory.

The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires
facilities subject to Subparts 302 and 304 to submit emergency planning and notification
information based on Threshold Planning Quantities (TPQs) and Reportable Quantities
(RQs) for "Extremely Hazardous Substances" listed in 40 CFR 302.4 and 40 CFR 355. No
components were identified.

**SARA 311/312 Hazard Identification**
The Superfund Amendments and Reauthorization Act of 1986 (SARA) Title III requires facilities subject to this subpart to submit aggregate information on chemicals by "Hazard Category" as defined in 40 CFR 370.2. This material would be classified under the following hazard categories:

- fire, Acute (Immediate) Health Hazard, Chronic (Delayed) Health Hazard

**SARA 313 Toxic Chemical Notification and Release Reporting**
This product contains the following components in concentrations above de minimis levels that are listed as toxic chemicals in 40 CFR Part 372 pursuant to the requirements of Section 313 of SARA:

- Naphthalene [CAS No.: 91-20-3] Concentration: <0.3%
- Ethylbenzene [CAS No.: 100-41-4] Concentration: <0.2%

**CERCLA**
The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) requires notification of the National Response Center concerning release of quantities of "hazardous substances" equal to or greater than the reportable quantities (RQ's) listed in 40 CFR 302.4. As defined by CERCLA, the term "hazardous substance" does not include petroleum, including crude oil or any fraction thereof which is not otherwise specifically designated in 40 CFR 302.4. Chemical substances present in this product or refinery stream that may be subject to this statute are:

- Cumene [CAS No.: 98-82-8] RQ = 5000 lbs. (2268 kg) Concentration: <1%
- Xylene, all isomers [CAS No.: 1330-20-7] RQ = 100 lbs. (45.36 kg) Concentration: <0.4%
- Naphthalene [CAS No.: 91-20-3] RQ = 100 lbs. (45.36 kg) Concentration: <0.3%

**Clean Water Act (CWA)**
This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.

**California Proposition 65**
This material may contain the following components which are known to the State of California to cause cancer, birth defects or other reproductive harm, and may be subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

- Naphthalene: <0.3%
- Ethylbenzene: <0.2%

**New Jersey Right-to-Know Label**
For New Jersey R-T-K labeling requirements, refer to components listed in Section 2.

**Additional Regulatory Remarks**
Federal Hazardous Substances Act, related statutes, and Consumer Product Safety Commission regulations, as defined by 16 CFR 1500.14(b)(3) and 1500.83(a)(13): This product contains "Petroleum Distillates" which may require special labeling if distributed in a manner intended or packaged in a form suitable for use in the household or by children. Precautionary label dialogue should display the following: **DANGER: Contains Petroleum Distillates! Harmful or fatal if swallowed! Call Physician Immediately. KEEP OUT OF REACH OF CHILDREN!**
SECTION 16. OTHER INFORMATION

Refer to the top of Page 1 for the HMIS and NFPA Hazard Ratings for this product.

REVISION INFORMATION

Version Number 3.0
Revision Date 03/24/2005
Print Date Printed on 03/24/2005.

ABBREVIATIONS

AP: Approximately EQ: Equal \( > \): Greater Than \( < \): Less Than NA: Not Applicable ND: No Data NE: Not Established
ACGIH: American Conference of Governmental Industrial Hygienists
IARC: International Agency for Research on Cancer
NIOSH: National Institute of Occupational Safety and Health
NPCA: National Paint and Coating Manufacturers Association
NFPA: National Fire Protection Association
VOI: Varouh Oil, Inc.

DISCLAIMER OF LIABILITY

THE INFORMATION IN THIS MSDS WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY WARRANTY, EXPRESSED OR IMPLIED REGARDING ITS CORRECTNESS. SOME INFORMATION PRESENTED AND CONCLUSIONS DRAWN HEREIN ARE FROM SOURCES OTHER THAN DIRECT TEST DATA ON THE SUBSTANCE ITSELF. THIS MSDS WAS PREPARED AND IS TO BE USED ONLY FOR THIS PRODUCT. IF THE PRODUCT IS USED AS A COMPONENT IN ANOTHER PRODUCT, THIS MSDS INFORMATION MAY NOT BE APPLICABLE. USERS SHOULD MAKE THEIR OWN INVESTIGATIONS TO DETERMINE THE SUITABILITY OF THE INFORMATION OR PRODUCTS FOR THEIR PARTICULAR PURPOSE.

THE CONDITIONS OR METHODS OF HANDLING, STORAGE, USE, AND DISPOSAL OF THE PRODUCT ARE BEYOND OUR CONTROL AND MAY BE BEYOND OUR KNOWLEDGE. FOR THIS AND OTHER REASONS, WE DO NOT ASSUME RESPONSIBILITY AND EXPRESSLY DISCLAIM LIABILITY FOR LOSS, DAMAGE OR EXPENSE ARISING OUT OF OR IN ANY WAY CONNECTED WITH HANDLING, STORAGE, USE OR DISPOSAL OF THE PRODUCT.

***** END OF MSDS *****