MINERAL SPIRITS RULE 66 (<8% AROMATICS)

MSDS ID: AA1009 Revised: 07-20-2007 Replaces: 07-20-2007

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:

MINERAL SPIRITS RULE 66 (<8% AROMATICS)

MSDS ID:

AA1009

Synonyms:

Mineral Spirits 75; Stoddard Solvent; White Spirits

CAS Number:

MIXTURE

Chemical Family:

Petroleum Hydrocarbon Solvent

Formula:

N.A.

DISTRIBUTED BY: Hydrite Chemical Co. 300 N. Patrick Blvd. Brookfield, WI 53008-0948 EMERGENCY RESPONSE NUMBERS: 24 Hour Emergency #: (414) 277-1311 CHEMTREC Emergency #: (800) 424-9300

(262) 792-1450

MANUFACTURED BY: Citgo Petroleum Corporation

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: WARNING! Combustible liquid and vapor. Keep away from heat, sparks, and open flame. May cause eye, skin and respiratory irritation. May be harmful or fatal if inhaled. May be harmful or fatal if swallowed. May be harmful if absorbed through the skin. Aspiration may cause lung damage. May cause kidney and liver damage. Breathing high concentrations can cause irregular heartbeats which may be fatal. May cause central nervous system depression. Spills may create a slipping hazard!

Physical State: Liquid.

Color:

Clear to light amber.

Odor:

Characteristic hydrocarbon solvent odor.

POTENTIAL HEALTH EFFECTS

Routes Of Exposure: Absorption. Eyes. Skin. Inhalation. Ingestion.

Target Organs: Eyes. Skin. Respiratory System. Lungs. Mucous Membranes. Central Nervous System. Kidneys. Liver.

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

Skin Contact: Prolonged or repeated exposure may cause moderate irritation. 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 may include: redness. itching. burning. Prolonged and repeated contact with skin can cause defatting and drying of the skin which may result in skin irritation and dermatitis.

Skin Absorption: May be harmful if absorbed through skin.

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Inhalation: May be fatal if inhaled. Vapors or mists may irritate: throat. lungs. respiratory tract. May cause: central nervous system depression. nausea. headache. dizziness. fatigue. drowsiness. unconsciousness. Breathing high concentrations of this material, for example, in an enclosed space or by intentional abuse, may cause irregular heartbeats which can cause death. 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.

Ingestion: May be harmful or fatal if swallowed. May cause irritation of the: mouth. throat. esophagus. It can be readily absorbed by the stomach and intestinal tract. Symptoms may include: burning sensation. nausea. vomiting. dizziness. staggering gait. drowsiness. unconsciousness. delirium. other central nervous system 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 effects of ingestion and subsequent aspiration into the lungs may cause pneumatocele (lung cavity) formation and chronic lung dysfunction.

Medical Conditions Aggravated By Exposure To Product: Skin disorders. Respiratory system disorders. Liver disorders. Kidney disorders. Central nervous system disorders.

Other: Retained solvent present in absorbent clothing (e.g. shoulder pads, leather belts or straps, etc.) which remains in contact with the skin for prolonged periods has caused severe skin irritation including redness, swelling, burns or severe tissue damage. Care must be taken to ensure that garments are completely dry before being worn.

Cancer Information: The American Conference of Governmental Industial Hygienists (ACGIH) lists Naphthalene as an A4 - Not Classifiable as a Human Carcinogen. The International Agency for Research on Cancer (IARC) has classified Naphthalene as a Group 2B - Possibly Carcinogenic to Humans. The National Toxicological Program (NTP) lists Naphthalene as a Group 2 - Reasonably Anticipated to be a Human Carcinogen.

Potential Environmental Effects: See Section 12.

3. COMPOSITION/INFORMATION ON INGREDIENTS

<u>Component</u> Stoddard Solvent/Petroleum Naphtha (Aliphatic/Aromatic)	CAS Number	OSHA Hazard	% by Wt.
	VARIES	YES	100 %
Nonane, all isomers Ethylmethylbenzene, all isomers Trimethylbenzenes, all isomers	MIXTURE	YES	10 - 30 %
	25550-14-5	YES	< 5 %
	25551-13-7	YES	< 2 %
N-Propylbenzene Cumene Naphthalene	103-65-1	YES	< 1 %
	98-82-8	YES	< 1 %
	91-20-3	YES	< 0.2 %

4. FIRST-AID MEASURES

Eye Contact: Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids open. Tilt head to avoid contaminating unaffected eye. Get immediate medical attention. Remove contact lenses if worn. Do not use eye ointment.

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Skin Contact: Immediately flush skin with plenty of water while removing contaminated clothing and shoes. Do not reuse clothing or shoes until cleaned. If irritation develops or persists, get medical attention. If skin surface is not damaged, wash thoroughly with soap and water. If skin surface is damaged, apply a clean dressing and seek medical attention. Do not use ointments. Discard contaminated leather articles such as shoes and belt.

Inhalation: Remove to fresh air. If breathing is difficult, administer oxygen. If not breathing, give artificial respiration, preferably mouth-to-mouth. GET MEDICAL ATTENTION IMMEDIATELY.

Ingestion: If swallowed, call a physician immediately. DO NOT induce vomiting unless directed to do so by a physician. Never give anything by mouth to an unconscious person. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into the lungs. If victim is drowsy or unconscious, place on side with head down. Do not leave victim unattended.

Note to Physicians: 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 assisteded 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. 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.

5. FIRE FIGHTING MEASURES

Extinguishing Media: Water spray. Water fog. Foam. Dry chemical. Carbon dioxide. Inert gas (nitrogen). Water fog and spray are effective in cooling containers and adjacent structures but might cause frothing and/or may not achieve extinquishment. Water can be used to cool the external walls of vessels to prevent excessive pressure, autoignition or explosion. DO NOT USE: Direct water stream.

Fire Fighting Methods: Evacuate area of unprotected personnel. Wear protective clothing including NIOSH-approved self-contained breathing apparatus. Remain upwind of fire to avoid hazardous vapors and decomposition products. Use water spray to cool fire-exposed containers and disperse vapors. If container is not properly cooled, it can rupture in the heat of a fire. Cool containers with flooding quantities of water until well after fire is out. Solid water streams may spread burning fire. Burning liquid will float on water. Cover pooling liquid with foam. Run-off from fire control may cause pollution. CAUTION: Spilled material may be slippery.

Fire And Explosion Hazards: COMBUSTIBLE LIQUID. Vapors are heavier than air. Vapors may settle in low or confined areas, or travel long distances along the ground or surface to an ignition source where they may ignite, flashback, or explode. Keep away from heat, sparks, flames or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment). PROCESS HAZARD: Sudden release of hot organic chemical vapors or mists from process equipment operating at elevated temperature and pressure, or sudden ingress of air into hot equipment under a vacuum, may result in ignitions without the presence of obvious ignition sources. Published "autoignition" or "ignition" temperature values cannot be treated as safe operating temperatures in chemical processes without analysis of the actual process conditions. Any use of this product in elevated-temperature processes should be thoroughly evaluated to establish and maintain safe operating conditions. Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture. Container areas exposed to direct flame should be cooled with large quantities of water as needed to prevent weakening of container structure.

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Hazardous Combustion Products: Carbon dioxide. Carbon monoxide. Smoke. Fumes. Unburned

hydrocarbons.

6. ACCIDENTAL RELEASE MEASURES

Spill Clean-Up Procedures: COMBUSTIBLE LIQUID. Eliminate all sources of ignition. Evacuate unprotected personnel from area. Maintain adequate ventilation. Follow personal protective equipment recommendations found in Section 8. Never exceed any occupational exposure limit. Shut off source of leak if safe to do so. Do not touch or walk through spilled material. Remove spillage immediately from hard, smooth walking areas. Use non-sparking tools and equipment. Ground and bond all containers and handling equipment. Prevent entry into basements, low areas, or confined areas. A vapor suppressing foam may be used to reduce vapors. Contain spill, place into drums for proper disposal. Soak up residue with non-flammable absorbent material. Place in non-leaking containers for immediate disposal. Flush remaining area with water to remove trace residue and dispose of properly. Avoid direct discharge to sewers and surface waters. Notify authorities if entry occurs. CAUTION: Spilled material may be slippery. For large spills: Water mist or spray may be used to reduce or disperse vapors; but, it may not prevent ignition in closed spaces. This material will float on water and its run-off may create an explosion or fire hazard.

7. HANDLING AND STORAGE

Handling: Avoid contact with eyes, skin, and clothing. Use with adequate ventilation. Do not swallow. Avoid breathing vapors, mists, or dust. Do not eat, drink, or smoke in work area. Wash thoroughly after handling. Empty containers retain product residue (vapor, dust, or liquid) and can be dangerous. DO NOT pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other source of ignition. They may explode and cause injury or death. Never siphon by mouth. Do not handle near an open flame, heat, or other sources of ignition. Use non-sparking tools and equipment. Use appropriate grounding and bonding practices. A static electrical charge can accumulate when this material is flowing through pipes, nozzles or filters and when it is agitated. Do not fill any portable container in or on a vehicle. DO NOT use compressed air for filling, discharing or other handling operations. Always keep nozzle in contact with the container throughout the loading process. Keep away from food and feedstuffs.

Storage: COMBUSTIBLE LIQUID. Store in a cool, well ventilated area away from all sources of ignition and out of direct sunlight. Store in a dry location away from heat. Keep away from incompatible materials. Keep containers tightly closed. Do not store in unlabeled or mislabeled containers. Static electricity may accumulate and create a fire hazard. Ground fixed equipment. Bond and ground transfer containers and equipment. The Occupational Safety and Health Administration (OSHA) permits the use of polyethylene containers, under its de minimis policy, for storing flammable and combustible liquids provided certain conditions are met. The complete OSHA standard on storing flammable and combustible liquids can be found in 29 CFR 1910.106.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines:				
Component	OSHA PEL	OSHA STEL/C	ACGIH TWA	ACGIH STEL/C
Stoddard Solvent/Petroleum Naphtha	*500 ppm	Not Estab.Not	*100 ppm	Not Estab.
(Aliphatic/Aromatic)	*100 ppm+	Estab.		
Nonane, all isomers	Not Estab.	Not Estab.	Not Estab.	Not Estab.
Ethylmethylbenzene, all isomers	Not Estab.	Not Estab.	Not Estab.	Not Estab.
Trimethylbenzenes, all isomers	Not Estab.	Not Estab.	* 25 ppm	Not Estab.

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Not Estab. Not Estab. Not Estab. Not Estab. N-Propylbenzene Not Estab. 50 ppm 50 ppm-S Not Estab. Cumene Not Estab. 10 ppm-S 15 ppm-S 10 ppm Naphthalene 10 ppm+ 15 ppm+

Note: * Exposure limit for Stoddard Solvent. + Vacated 1989 OSHA PEL(s). * Exposure limit for Trimethyl benzene mixed isomers. S = Skin notation.

Engineering Controls: Local exhaust ventilation, process enclosures, or other engineering controls are imperative when handling or using this product to avoid overexposure. Use explosion-proof ventilation equipment. Maintain adequate ventilation. Do not use in closed or confined spaces. Avoid creating dust or mist. Keep levels below exposure limits. To determine exposure levels, monitoring should be performed regularly.

Eye/Face Protection: Wear safety glasses with side shields while handling this product. Wear additional eye protection such as chemical safety goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material. Do not wear contact lenses.

Skin Protection: Prevent contact with this product. Wear gloves and protective clothing depending on condition of use. Protective gloves: Chemical-resistant. Viton (R). Heavy nitrile rubber.

Respiratory Protection: Respiratory protection must be worn if ventilation does not eliminate symptoms or keep levels below recommended exposure limits. If exposure limits are exceeded, wear: NIOSH-Approved organic respirator with: Organic vapor cartridge. NIOSH-Approved positive pressure, full-facepiece SCBA. DO NOT exceed limits established by the respirator manufacturer. All respiratory protection programs must comply with OSHA 29 CFR 1910.134 and ANSI Z88.2 requirements and must be followed whenever workplace conditions require a respirator's use.

Other Protective Equipment: Eye-wash station. Safety shower. Rubber apron. Rubber boots. Appropriate heat resistant clothing. Protective clothing.

General Hygiene Conditions: Wash with soap and water before meal times and at the end of each work shift. Food, beverages, and tobacco products should not be carried, stored or consumed where this material is in use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State: Liquid. Color: Clear to light amber.

Odor: Characteristic hydrocarbon solvent odor.

Boiling Point (deg. F): 309 - 390 Freezing Point (deg. F): N.D. Melting Point (deg. F): N.D.

Vapor Pressure (mm Hg): 2 @ 20 C

Vapor Density (air=1): > 1

Solubility in Water: Very slightly soluble in cold water (< 0.1% w/w)

pH: N.A.

Specific Gravity: 0.78 % Volatile (wt%): 100

Evaporation Rate (nBuAc = 1): < 1

VOC (wt%): 100

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VOC (lbs/gal): 783 g/l Viscosity: N.D.

Flash Point: 110 Deg. F.

Flash Point Method: TCC. ASTM D 56.

Lower Explosion Limit: ~ 0.5 % Upper Explosion Limit: ~ 6 % Autoignition Temperature: No Data

10. STABILITY AND REACTIVITY

Stability: Stable under normal conditions.

Conditions To Avoid: Avoid contact with heat, sparks, electric arcs, other hot surfaces, and open flames. Avoid other ignition sources. Keep away from strong oxidizing conditions and agents.

Incompatible Materials: Strong oxidizing agents. Strong acids. Strong alkalies. Liquid chlorine.

Hazardous Decomposition Products: Combustion products: Carbon monoxide. Carbon dioxide. Smoke. Fumes. Unburned hydrocarbons.

Possibility of Hazardous Reactions: Hazardous polymerization will not occur under normal conditions.

11. TOXICOLOGICAL INFORMATION

LD50 Oral:

No Data

LD50 Skin:

Rabbit: > 3,000 mg/kg

LC50 Inhalation: 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 animals 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 2,400 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 for over-exposure to naphthalene.

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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 nonneoplastic 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.

12. ECOLOGICAL INFORMATION

Ecotoxicological Information: This mixture contains components that are potentially toxic to freshwater and saltwater ecosystems.

Chemical Fate Information: 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.

13. DISPOSAL CONSIDERATIONS

Hazardous Waste Number: D001

Disposal Method: Dispose of in a permitted hazardous waste management facility following all local, state and federal regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Reuse, recycle, or reprocess if possible. Since emptied containers retain product residue, follow label warnings even after container is emptied. DO NOT pressurize, cut, weld, solder, drill, grind or expose empty containers to heat, flame, sparks or other sources of ianition.

14. TRANSPORTATION INFORMATION

DOT (Department of Transportation):

Proper Shipping Name:

PETROLEUM DISTILLATES, N.O.S. (NAPHTHA SOLVENT)

Hazard Class: Identification Number:

UN1268

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Packing Group: Label Required:

FLAMMABLE

Reportable Quantity (RQ): 5000# (Cumene); 100# (Naphthalene)

Note: This material is an "Oil" under 49 CFR Part 130 when transported in a container of 3500 gallon capacity

or greater.

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS

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TSCA Inventory Status: All components of this product are on the TSCA Inventory or are exempt from TSCA Inventory requirements.

SARA Title III Section 311/312 Category: Immediate (Acute) Health Hazard: Y Delayed (Chronic) Health Hazard: Y

Fire Hazard: Y

Sudden Release Of Pressure Hazard: N

Reactive Hazard: N

SARA Section 302/304/313/HAP:

SANA Section 302/30-/310/11AL.					
Component	CERCLA RQ	SARA RQ	SARA TPQ	SARA 313	<u>U.S. HAP</u>
Stoddard Solvent/Petroleum Naphtha	N.A.	N.A.	N.A.	NO	NO
(Aliphatic/Aromatic)					
Nonane, all isomers	N.A.	N.A.	N.A.	NO	NO
Ethylmethylbenzene, all isomers	N.A.	N.A.	N.A.	NO	NO
Trimethylbenzenes, all isomers	N.A.	N.A.	N.A.	NO	NO
N-Propylbenzene	N.A.	N.A.	N.A.	NO	NO
Cumene	5000	N.A.	N.A.	YES	YES
Naphthalene	100	N.A.	N.A.	YES	YES

Clean Water Act: Naphthalene is listed on the Clean Water Act Priority Pollutants List. CERCLA: This product, as sold, is derived from a fraction of crude oil and is excluded from the spill reporting requirements by CERCLA Section 101(14)(F). When this product is used in a mixture or as an ingredient in another product or in a manufacturing operation, the petroleum exclusion may terminate and an accidental spill may require reporting to the National Response Center at 800-424-8802. This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharge 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.

U.S. STATE REGULATIONS

California - The following components are listed under Proposition 65:

Nephthalene: < 0.2 %Ethylbenzene: < 0.1 %

Wisconsin - The following components are listed as a Wisconsin HAP:

Stoddard Solvent. Trimethyl benzene, mixed isomers. Cumene. Naphthalene.

16. ADDITIONAL INFORMATION

Hydrite Rating System

Health:

1*

Flammablility:

2

Reactivity:

0

* = Chronic Health Hazard

NFPA Rating System

Health:

1

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Flammability: 2
Reactivity: 0
Special Hazard: None

MSDS Abbreviations
N.A. = Not Applicable
N.D. = Not Determined
HAP = Hazardous Air Pollutant
VOC = Volatile Organic Compound
C = Ceiling Limit
N.E./Not Estab. = Not Established

MSDS Prepared by: LW

Reason for Revision: Changes made throughout the MSDS.

The data in this Material Safety Data Sheet relates to the specific material designated and does not relate to its use in combination with any other material or process. The data contained is believed to be correct. However, since conditions of use are outside our control it should not be taken as warranty or representation for which HYDRITE CHEMICAL CO. assumes legal responsibility. This information is provided solely for your consideration, investigation, and verification.