



Material Safety Data Sheet

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Revision date: 09/12/2005

1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product name: Marathon Mineral Spirits Rule 66
Synonyms: Mineral Spirits Rule 66
Chemical Family: Hydrocarbon Solvent
Formula: Mixture

Manufacturer:
Marathon Petroleum Company LLC
539 South Main Street
Findlay OH 45840

Other information: 419-421-3070
Emergency telephone number: 877-627-5463

2. COMPOSITION/INFORMATION ON INGREDIENTS

Mineral Spirits is a complex mixture of predominantly aliphatic hydrocarbons (paraffins, and cycloparaffins) having hydrocarbon chain lengths predominantly in the range of C9 through C12.

Product information

| Name | CAS Number | Weight % | ACGIH Exposure Limits: | OSHA - Vacated PELs - Time Weighted Ave | Other: |
|----------------------------------|------------|----------|------------------------|--|--------|
| Marathon Mineral Spirits Rule 66 | 8052-41-3 | 100 | = 100 ppm TWA | = 100 ppm TWA = 525 mg/m ³ TWA | |

Component Information

| Name | CAS Number | Weight % | ACGIH Exposure Limits: | OSHA - Vacated PELs - Time Weighted Ave | Other: |
|-----------------------|------------|----------|------------------------|---|--------|
| Paraffins | Mixture | 88-91 | | | |
| Cycloparaffins | Mixture | 8-11 | | | |
| Aromatic Hydrocarbons | Mixture | 0-1 | | | |

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

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

THIS PRODUCT IS A CLEAR, COLORLESS LIQUID WITH A STRONG HYDROCARBON ODOR. THIS PRODUCT IS CONSIDERED TO BE A COMBUSTIBLE LIQUID PER THE OSHA HAZARD COMMUNICATION STANDARD AND SHOULD BE KEPT AWAY FROM HEAT, FLAME AND SOURCES OF IGNITION. NEVER SIPHON THIS PRODUCT BY MOUTH. IF SWALLOWED, THIS PRODUCT MAY GET SUCKED INTO THE LUNGS (ASPIRATED) AND CAUSE LUNG DAMAGE OR EVEN DEATH. PROLONGED OR REPEATED SKIN CONTACT CAN CAUSE DEFATTING AND DRYING OF THE SKIN WHICH MAY PRODUCE SEVERE IRRITATION OR DERMATITIS.

OSHA WARNING LABEL:

**WARNING.
COMBUSTIBLE LIQUID.
ASPIRATION (INADVERTENT SUCTION) OF LIQUID INTO THE LUNGS CAN PRODUCE CHEMICAL PNEUMONIA
OR EVEN DEATH.
PRODUCES SKIN IRRITATION UPON PROLONGED OR REPEATED CONTACT.**

CONSUMER WARNING LABEL:

A CONSUMER WARNING LABEL IS NOT APPLICABLE FOR THIS PRODUCT.

- Inhalation:** Exposure to high vapor concentrations may produce headache, giddiness, vertigo, and anesthetic stupor.
- Ingestion:** Ingestion may result in nausea, vomiting, diarrhea and restlessness. Aspiration (inadvertent suction) of liquid into the lungs must be avoided as even small quantities in the lungs can produce chemical pneumonitis, pulmonary edema/hemorrhage and even death.
- Skin contact:** Prolonged and repeated liquid contact can cause defatting and drying of the skin and can lead to irritation and/or dermatitis.
- Eye contact:** Eye irritation may result from contact with the liquid or exposure to the vapor at concentrations above the TLV.

Carcinogenic Evaluation:

Product information

| Name | IARC Carcinogens: | NTP Carcinogens: | ACGIH - Carcinogens: | OSHA - Select Carcinogens: |
|---|-------------------|------------------|----------------------|----------------------------|
| Marathon Mineral Spirits Rule 66 8052-41-3 | NE | | | |

- Notes:** The International Agency for Research on Cancer (IARC) has determined that there is inadequate evidence for the carcinogenicity of aliphatic hydrocarbon solvents in humans. Therefore, aliphatic hydrocarbon solvents are not classifiable as to their carcinogenicity to humans (Group 3).

Component Information

4. FIRST AID MEASURES

- Inhalation:** If affected, move person to fresh air. If breathing is difficult, administer oxygen. If not breathing or if no heartbeat, give artificial respiration or cardiopulmonary resuscitation (CPR). Immediately call a physician. If symptoms or irritation occur with any exposure, call a physician.
- Skin contact:** Wash with soap and large amounts of water. Remove contaminated clothing. If symptoms or irritation occur, call a physician.
- Ingestion:** If swallowed, do not induce vomiting and do not give liquids. Immediately call a physician.
- Eye contact:** Flush eyes with large amounts of tepid water for at least 15 minutes. If symptoms or irritation occur, call a physician.

Medical conditions aggravated by exposure: Skin contact could aggravate an existing skin disorder or dermatitis condition.

5. FIRE FIGHTING MEASURES

| | |
|---|--|
| Suitable extinguishing media: | For small fires, Class B fire extinguishing media such as CO ₂ , dry chemical, foam (AFFF/ATC) or water spray can be used. For large fires, water spray, fog or foam (AFFF/ATC) can be used. Fire fighting should be attempted only by those who are adequately trained and equipped with proper protective equipment. |
| Specific hazards: | This product has been determined to be a combustible liquid per the OSHA Hazard Communication Standard and should be handled accordingly. For additional fire related information, see NFPA 30 or the North American Emergency Response Guide 128. |
| Special protective equipment for firefighters: | Avoid using straight water streams. Water spray and foam (AFFF/ATC) must be applied carefully to avoid frothing and from as far a distance as possible. Avoid excessive water spray application. Keep surrounding area cool with water spray from a distance and prevent further ignition of combustible material. Keep run-off water out of sewers and water sources. |
| Flash point: | 105 F (Min) |
| Autoignition temperature: | 450-500 F |
| Flammable limits in air - lower (%): | 0.9 |
| Flammable limits in air - upper (%): | 6.0 |
| NFPA rating: | HMIS classification: |
| Health: 2 | Health: 2 |
| Flammability: 2 | Flammability: 2 |
| Reactivity: 1 | Reactivity: 1 |
| Other: - | Special: *See Section 8 for guidance in selection of personal protective equipment. |

6. ACCIDENTAL RELEASE MEASURES

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|------------------------------|--|
| Personal precautions: | Keep public away. Isolate and evacuate area. Shut off source if safe to do so. Eliminate all ignition sources. Advise authorities and National Response Center (800-424-8802) if substance has entered a watercourse or sewer. Notify local health and pollution control agencies, if appropriate. Contain liquid with sand or soil. Recover and return free product to proper containers. Use suitable absorbent materials such as vermiculite, sand, or clay to clean up residual liquids. |
|------------------------------|--|

7. HANDLING AND STORAGE

Handling:

Comply with all applicable EPA, OSHA, NFPA and consistent state and local requirements. Use appropriate grounding and bonding practices. Store in properly closed containers that are appropriately labeled and in a cool well-ventilated area. 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 they may contain explosive residues.

Hydrocarbons are basically non-conductors of electricity and can become electrostatically charged during mixing, filtering, pumping at high flow rates or loading and transfer operations. If this charge reaches a sufficiently high level, sparks can form that may ignite the vapors of flammable liquids. Sudden release of hot organic chemical vapors or mists from process equipment operating under elevated temperature and pressure, or sudden ingress of air into vacuum equipment may result in ignitions without the presence of obvious ignition sources. Nozzle spouts must be kept in contact with the containers or tank during the entire filling operation.

Never siphon this product by mouth. Avoid repeated and prolonged skin contact. Exercise good personal hygiene including removal of soiled clothing and prompt washing with soap and water.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

PERSONAL PROTECTIVE EQUIPMENT

| | |
|----------------------------------|---|
| Engineering measures: | Local or general exhaust required in an enclosed area or when there is inadequate ventilation. |
| Respiratory protection: | Approved organic vapor chemical cartridge or supplied air respirators should be worn when significant vapors are generated. Observe respirator protection factor criteria cited in ANSI Z88.2. Self-contained breathing apparatus should be used for fire fighting. |
| Skin and body protection: | Neoprene, nitrile, polyvinyl alcohol (PVA), polyvinyl chloride and polyurethane gloves to prevent skin contact. |
| Eye protection: | No special eye protection is normally required. Where splashing is possible, wear safety glasses with side shields. |
| Hygiene measures: | No special protective clothing is normally required. Select protective clothing depending on industrial operations. Use mechanical ventilation equipment that is explosion-proof. |

9. PHYSICAL AND CHEMICAL PROPERTIES:

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|---|--------------------|
| Appearance: | Colorless Liquid |
| Physical state (Solid/Liquid/Gas): | Liquid |
| Substance type (Pure/Mixture): | Mixture |
| Color: | Colorless |
| Odor: | Slight Hydrocarbon |
| Molecular weight: | 130-140 |
| pH: | Neutral |
| Boiling point/range (5-95%): | 310-390 F |
| Melting point/range: | Not determined. |
| Decomposition temperature: | Not applicable. |
| Specific gravity: | 0.76-0.77 |
| Density: | 6.3-6.4 lbs/gal |
| Bulk density: | No data available. |
| Vapor density: | 4-6 |
| Vapor pressure: | Not determined. |
| Evaporation rate: | No data available. |
| Solubility: | Not determined |
| Solubility in other solvents: | No data available. |
| Partition coefficient (n-octanol/water): | 4.2-6.7 |
| VOC content(%): | No data available. |

Viscosity: No data available.

10. STABILITY AND REACTIVITY

Stability: The material is stable at 70 F, 760 mm pressure.

Polymerization: Will not occur.

Hazardous decomposition products: Combustion produces carbon monoxide, aldehydes, aromatic and other hydrocarbons.

Materials to avoid: Strong oxidizers such as nitrates, chlorates, peroxides.

Conditions to avoid: Sources of heat or ignition.

11. TOXICOLOGICAL INFORMATION

Acute toxicity:

Product information

| Name | CAS Number | Inhalation: | Dermal: | Oral: |
|----------------------------------|------------|-----------------|----------------------|----------------|
| Marathon Mineral Spirits Rule 66 | 8052-41-3 | >3.6 mg/l [Rat] | >3.16 gm/kg [Rabbit] | >2 gm/kg [Rat] |

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.

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.

12. ECOLOGICAL INFORMATION

Ecotoxicity effects: The 96 hour LC50 of a water accommodated fraction (WAF) of mineral spirits is >1,000 mg/l in rainbow trout.

13. DISPOSAL CONSIDERATIONS

Cleanup Considerations: This product as produced is not specifically listed as an EPA RCRA hazardous waste according to federal regulations (40 CFR 261). However, when discarded or disposed of, it may meet the criteria of an "characteristic" hazardous waste. This material could become a hazardous waste if mixed or contaminated with a hazardous waste or other substance(s). It is the responsibility of the user to determine if disposal material is hazardous according to federal, state and local regulations.

14. TRANSPORT INFORMATION

49 CFR 172.101:

DOT:

Transport Information: This material when transported via US commerce would be regulated by DOT Regulations.

Proper shipping name: Petroleum Distillates, N.O.S. (Naphtha)
UN/Identification No: UN 1268
Hazard Class: 3
Packing group: III
DOT reportable quantity (lbs): Not applicable.

TDG (Canada):

Proper shipping name: Petroleum Distillates, N.O.S. (Naphtha)
UN/Identification No: UN 1268
Hazard Class: 3
Packing group: III
Regulated substances: Not applicable.

15. REGULATORY INFORMATION

Federal Regulatory Information:

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

OSHA Hazard Communication Standard: This product has been evaluated and determined to be hazardous as defined in OSHA's Hazard Communication Standard.

EPA Superfund Amendment & Reauthorization Act (SARA):

SARA Section 302: This product contains the following component(s) that have been listed on EPA's Extremely Hazardous Substance (EHS) List:

| Name | CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs |
|-----------------------|---|
| Paraffins | NA |
| Cycloparaffins | NA |
| Aromatic Hydrocarbons | NA |

SARA Section 304: This product contains the following 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 | CERCLA/SARA - Hazardous Substances and their Reportable Quantities |
|-----------------------|--|
| Paraffins | NA |
| Cycloparaffins | NA |
| Aromatic Hydrocarbons | NA |

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

Acute Health Hazard
 Fire Hazard

SARA Section 313: This product contains the following component(s) that may be subject to reporting on the Toxic Release Inventory (TRI) From R:

| Name | CERCLA/SARA 313 Emission reporting: |
|-----------------------|-------------------------------------|
| Paraffins | None |
| Cycloparaffins | None |
| Aromatic Hydrocarbons | None |

State and Community Right-To-Know Regulations:

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

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 |

Cycloparaffins

| | |
|---|-------------|
| 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 |

Aromatic Hydrocarbons

| | |
|--|-------------|
| 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 |

Canadian Regulatory Information:

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

16. OTHER INFORMATION

Additional Information: No data available.

Prepared by: Craig M. Parker Manager, Toxicology and Product Safety

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End of Safety Data Sheet