

CYCLO[®] INDUSTRIES, LLC

MATERIAL SAFETY DATA SHEET

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This MSDS is being provided to your company for the purpose of providing current health and safety information to your management and for your employees who work with this product. Please read the information on these sheets and then provide this information to those people at your company whose responsibility it is to comply with FEDERAL, STATE and COMMUNITY RIGHT TO KNOW regulations. Also, make this information available to any employee who requests it.

If Cyclo Industries, LLC considers the formula of this product to be a trade secret, the exact chemical names of the ingredient(s) and the percentages in which they are combined will not appear in the body of this sheet. The exact composition is available upon request to physicians, industrial hygienists and other health professionals.

SECTION 1 - PRODUCT IDENTIFICATION

Product Name: C-23 Cyclo[®] Diesel Fuel Treatment

Hazardous Material Description: DOT & IMDG: Flammable Liquid N.O.S. (Kerosene, Cumene, Xylene), 3, UN1993, III, Ltd. Qty.

HMIS Code: Health = 2

Flammability = 2

Reactivity = 0

SECTION 2 - PHYSICAL DATA

Specific Gravity (H₂O=1): 6.65 at 60°F

Density, lb./gal. 60°F/ 16°C: 55.46

Appearance and Odor: Light amber liquid; slight amine odor

SECTION 3 - HAZARDOUS INGREDIENTS

CAS Reg. No.	Material	Percentage	Exposure Limits
64742-81-0	Hydrodesulfurized Kerosene	90 – 99	500 ppm = OSHA PEL TWA 2000 ppm = STEL
98-82-8	Cumene	<0.05	Not established
1330-20-7	Xylene	<0.05	100 ppm = OSHA 100 ppm = ACGIH 150 ppm = STEL
64742-94-5	Heavy aromatic petroleum Solvent naphtha	<0.75	Not available

SECTION 3 - HAZARDOUS INGREDIENTS continued

<u>CAS Reg. No.</u>	<u>Material</u>	<u>Percentage</u>	<u>Exposure Limits</u>
111-76-2	Ethylene Glycol Monobutyl Ether	<0.1	25 ppm = OSHA 25 ppm = TWA 25 ppm = ACGIH
95-63-6	* 1,2,4 Trimethylbenzene	<0.10	25 ppm TWA = NIOSH 25 ppm TWA = OSHA

* Indicates toxic chemical(s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372.

SECTION 4 - FIRE AND EXPLOSION HAZARD DATA

Flash Point: 142°F (61.1°C) Method Used: CC

Extinguishing Media: Foam, dry chemical or carbon dioxide.

Flammable Limits In Air % By Volume at: Not established

Special Fire Fighting Procedures: Use water spray to cool fire exposed containers, equipment and to protect personnel. DO NOT spray water directly on fire. The product will float and could be re-ignited on surface of water. Isolate fuel supply from fire. Respiratory and eye protection required for fire fighting personnel.

Unusual Fire and Explosion Hazards: Avoid spraying water directly into storage containers due to danger of boilover. This liquid is volatile and gives off invisible vapors. Either the liquid or vapor may settle in low areas or travel some distance along the ground or surface to ignition sources where they may ignite or explode.

SECTION 5 - HEALTH HAZARD DATA

Effects of Overexposure:

Ingestion: DO NOT INDUCE VOMITING. Get medical attention. May be harmful or fatal as it can enter the lungs by aspiration and cause severe lung damage, including lung inflammation and pneumonia. If ingested, this material may cause somnolence, hallucinations, distorted perceptions and fever. Swallowing causes gagging, coughing or strangling followed by gastrointestinal tract irritation with nausea, vomiting and diarrhea. Bright red lips are an indication of kerosene ingestion. May cause nonspecific discomfort, such as nausea, headache or weakness; temporary nervous system depression, dizziness, headache, confusion, uncoordination and loss of consciousness.

Inhalation: May cause irritation of the upper respiratory passages with coughing and discomfort. Vapors or mist, in excess of permissible concentrations or in unusually high concentrations generated from spraying, heating the material or as from exposure in poorly ventilated areas or confined spaces may cause headaches, dizziness, anesthesia, drowsiness, unconsciousness and other central nervous system effects.

Skin Contact: May cause irritation with discomfort or rash or possible photosensitization.

Eye Contact: May cause irritation with discomfort, tearing or blurring of vision.

SECTION 5 - HEALTH HAZARD DATA continued

Chronic Exposure Effects: The effects of Kerosene from chronic inhalation exposure in laboratory animals include kidney damage, bronchioconstriction in rabbits, inflammatory of the lungs in guinea pigs. Symptoms of chronic inhalation exposure to Kerosene above applicable workplace exposure levels include headache, inflammation of nerves nerve pain, memory loss, lowered blood counts and respiratory problems.

Dermal effects from Kerosene in two-year laboratory studies have demonstrated that repeated and prolonged skin exposure have been associated with an increased incidence of skin tumors in mice. Also, repeated and prolonged exposure may cause defatting that results in dry and cracked skin.

Carcinogenicity: NTP Carcinogen = ; IARC Monographs = Category 2B; OSHA Regulated =

Medical Conditions Aggravated by Exposure: Chronic skin, respiratory or nervous system disorders, liver dysfunction or kidney disease.

First Aid Procedures:

Ingestion: DO NOT INDUCE VOMITING. Seek medical attention immediately. If individual is conscious, give 2 glasses of water to dilute stomach contents. Keep warm and quiet. Do not attempt to give anything by mouth to an unconscious person.

Skin Contact: Flush affected areas with large amounts of water. Use soap if available. Remove contaminated clothing after flushing has begun. If irritation persists, seek medical attention.

Inhalation: Using proper respiratory protection, immediately remove victim from contaminated atmosphere. If not breathing, administer artificial respiration. If breathing is difficult, 100% humidified oxygen should be administered by a qualified individual. Keep at rest. Seek medical attention immediately.

Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes. Get prompt medical attention.

Notes to Physicians:

Inhalation: If cough or difficulty in breathing develops, evaluate for respiratory tract irritation, bronchitis, or pneumonitis. Administer 100% humidified supplemental oxygen with assisted ventilation as required. In symptomatic patients (coughing, choking, tachypnea, etc.), monitor blood gases to assure adequate ventilation. If vital signs become abnormal or symptoms develop, obtain a chest x-ray.

Ingestion: The viscosity of this material is approximately 32 SUS at 100°F. There is a high risk of pulmonary aspiration. Aspiration can result in chemical pneumonitis or lipoid pneumonia. Removal by careful gastric lavage with tight fitting, cuffed endotracheal tube may be considered. Pulmonary edema can be managed with PEEP and supplemental oxygen. Antibiotics are indicated only if bacterial superinfection of the lungs occurs. Steroids have not been shown to be of benefit for hydrocarbon pneumonitis.

SECTION 6 - REACTIVITY DATA

Stability: Stable

Conditions to Avoid: Temperatures above 100°C

Incompatibility (materials to avoid): Strong oxidizing agents. Incompatible with nitric acid, sulfuric acid, halogens, hydrogen peroxide and chlorinated agents.

Hazardous Decomposition Products: Thermal decomposition products may include carbon, oxides of carbon, nitrogen and sulfur, water, organic vapors and other fumes.

Hazardous Polymerization: Will not occur

SECTION 7 - SPECIAL PROTECTION INFORMATION

Respiratory Protection: Where overexposure by inhalation may occur, use NIOSH/MSHA approved self-contained breathing apparatus (SCBA) equipment.

Ventilation: Should be provided to control worker exposures and prevent health risk

Protective Gloves: Chemical resistant

Eye Protection: Chemical goggles or safety glasses with side shields

Other Protective Equipment: For open systems where contact is likely, wear long sleeves.

Work/Hygienic Practices: Eye washes and safety showers in the workplace are recommended.

SECTION 8 - SPILL OR LEAK PROCEDURES

Steps To Be Taken In Case Material Is Released or Spilled: Land Spill – eliminate sources of ignition. Prevent additional discharge of material if possible to do so without hazard. For small spills implement cleanup procedure. For large spills implement cleanup procedure and, if in public area, keep public away and advise authorities. Notify the National Response Center. Prevent liquid from entering sewers, watercourses or low areas. Contain spilled liquid with sand or earth. Do not use combustible materials such as sawdust. Recover by pumping (use an explosion proof or hand pump) or with a suitable absorbent. If liquid is too viscous for pumping, scrape up. Consult an expert on disposal of recovered material and dispose of in accordance with local, state and federal regulations.

Water Spill – eliminate sources of ignition. Warn occupants and shipping in surrounding and downwind areas of fire and explosion hazard and request all to stay clear. Remove from surface by skimming or with suitable absorbents. If allowed by local authorities and environmental agencies, sinking and/or suitable dispersants may be used in non-confined waters. Consult an expert on disposal of recovered material and dispose of in accordance with local, state and federal regulations.

SECTION 8 - SPILL OR LEAK PROCEDURES continued

Waste Disposal Method: Dispose of in accordance with local, state and federal regulations. Before attempting clean up, refer to other sections of this MSDS for hazard caution information.

SECTION 9 - SPECIAL PRECAUTIONS

Precautions To Be Taken In Handling and Storage: DANGER! Flammable Liquid. Toxic gases will form upon combustion. Empty containers retain product residue (liquid and/or vapor) 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 SOURCES OF IGNITION. THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Empty drums should be completely drained, properly bunged and promptly returned to a drum re-conditioner or properly disposed of.

Other precautions: Do not get in eyes, on skin or on clothing. Do not breathe vapors, mist fume or dust. Do not swallow, may be aspirated into lungs. Wear protective equipment and/or garments described in Section 7 if exposure conditions warrant. Wash thoroughly after handling. Immediately remove and launder contaminated clothing before reuse. Use only with adequate ventilation. Use spark-proof tools. Material may be at elevated temperatures and/or pressures. Exercise care when opening bleeders and sampling ports. Ground and bond shipping containers, transfer line and receiving container. Keep container closed. Handle and open containers with care. Store in a cool, well ventilated area away from incompatible materials. Keep container tightly closed. Store in accordance with National Fire Protection Association recommendations.

SECTION 10 – REGULATORY INFORMATION

TSCA: Components of this product are listed on the TSCA Inventory.

Discharge or spills which produce a visible sheen on either surface water or in waterways/sewers which lead to surface water, must be reported to the National Response Center at (800) 424-8802. This information may be subject to the provisions of the Community Right-to-Know Reporting Requirements (40 CFR 370) if threshold quantity criteria are met.

CERCLA: Under the CERCLA/RCRA regulations currently in effect, this material is regulated as a hazardous waste or material. Therefore, it must be disposed of in a “permitted” hazardous waste facility in compliance with EPA and/or other applicable local, state and federal regulations. It should be handled in a manner acceptable to good waste management practice

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