



Material Safety Data Sheet

The Toro Company
8111 Lyndale Ave S
Bloomington, MN 55420

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Product Identification

Product Name:	Red Dye (for Hydraulic Oil)	Parts Number:
Product type:	Liquid dye	44-2500
MSDS #		
Emergency Contact:	Chemtrec : 1-800-424-9300	
Contact Number:	1-952-888-8801	

Chemical Components

Chemical	CAS #	%	ACGIH TLV	OSHA PEL	Other
C.I. Solvent Red 164	92257-31-3	40.0 - 50.0			
Extracted naphthenic oil	64742-53-6	50.0 - 60.0			
Xylene	1330-20-7	<= 0.9	100 ppm	435 mg/m3 100 ppm	STEL 150 ppm
Ethylbenzene	100-41-4	<= 0.3	434 mg/m3 100 ppm	435 mg/m3 100 ppm	543 mg/m3 125 ppm

Physical and Chemical Properties

Characteristics		Physical Properties		Hazards Description	Physical Dangers
Physical State	Liquid	Vapor pressure	0.04 mmHg at < 20 °C (< 68.00 °F) solvent	INHALATION OF HIGH VAPOR OR MIST CONCENTRATIONS CAN CAUSE THE FOLLOWING: IRRITATION OF NOSE, THROAT, AND LUNGS HEADACHE CENTRAL NERVOUS SYSTEM (CNS) EFFECTS IRRITATING TO EYES AND SKIN. PROLONGED OR REPEATED OVEREXPOSURE TO ETHYLBENZENE MAY CAUSE THE FOLLOWING: - KIDNEY	Hazardous reactions This material is considered stable. However, avoid contact with ignition sources (e.g. sparks, open flame, heated surfaces). Materials to avoid acids Strong
Color	Red	pH	not applicable		
Odor	petroleum	Boiling point/range:	204 - 327 °C (399 - 621 °F) solvent		
		Melting point/range:	No data available		
		Relative density	0.94		

HMIS Rating		Viscosity, dynamic	100.000 - 118.000 mPa.s	EFFECTS - LIVER EFFECTS - LUNG EFFECTS – PITUITARY EFFECTS – THYROID EFFECTS - TESTICULAR EFFECTS.THE FOLLOWING CHEMICALS HAVE BEEN LISTED BY THE INTERNATIONAL AGENCY FOR RESEARCH ON CANCER (IARC) AS POSSIBLE CANCER CAUSING AGENTS: ETHYLBENZENE (100-41-4) PROLONGED OR REPEATED OVEREXPOSURE TO C.I. SOLVENT RED 164 CAN CAUSE ADVERSE REPRODUCTIVE EFFECTS BASED ON PRELIMINARY RESULTS FROM A SCREENING LEVEL TEST IN EXPERIMENTAL ANIMALS.	Hazardous decomposition products There are no known hazardous decomposition products for this material., polymerization Product will not undergo polymerization.
Health:	1	Evaporation rate	not applicable		
Flammability:	1	Solubility in water	insoluble		
Physical Hazard:	0	Percent volatility	50 - 60 %		
		Flash Point	> 93 °C (> 199.40 °F) SETAFLASH CLOSED CUP		
		Ignition Temperature	307 °C (585 °F) solvent		

Health Hazards

Major Routes of Exposure:		Ingredients Considered Hazardous to Health	Potential Health Effects:
Inhalation	X	Chronic Exposure: Prolonged or repeated overexposure to C.I. Solvent Red 164 can cause adverse reproductive effects based on preliminary results from a screening level test in experimental animals. Prolonged or repeated overexposure to ethylbenzene may cause the following: - kidney effects – liver effects - lung effects - pituitary effects - thyroid effects - testicular effects	Inhalation. Inhalation: Inhalation of high solvent vapor or mist concentrations can cause the following: irritation of nose, throat, and lungs, Headache, Nausea, dizziness, anesthetic effects, Drowsiness, unconsciousness, central nervous system (CNS) effects possible death
Skin	X		
Ingestion			
Eye	X		
		Xylene ACGIH Not classifiable as a human carcinogen. Xylene IARC Classification not possible from current data. Xylene IRIS Not classifiable.	Skin contact The solvent(s) in this material can cause the following: slight irritation Prolonged or repeated skin contact can cause the following: defatting and drying of the skin which can lead to irritation and dermatitis
		Ethylbenzene ACGIH Confirmed animal carcinogen with unknown relevance to humans. Ethylbenzene IARC Possible carcinogen. Ethylbenzene IRIS Not classifiable	Eye contact: The solvent(s) in this material can cause the following: slight irritation
			Ingestion: Material is possibly harmful if swallowed. The solvent(s) in this material can cause the following: gastrointestinal irritation, abdominal pain, Dizziness, headache, nausea Aspiration into the lungs may cause: pneumonitis (lung inflammation) pulmonary edema (fluid in lung tissue and air spaces) lung injury

First Aid Measures	Personal Protection
<p>Inhalation: Remove to fresh air. Give artificial respiration if breathing has stopped. Consult a physician.</p> <p>Skin contact: Wash off with soap and plenty of water. Remove contaminated clothing. Consult a physician. Wash clothing before reuse. Do not take clothing home to be laundered.</p> <p>Eye contact: Rinse with water. If eye irritation persists, consult a specialist.</p> <p>Ingestion: Drink 1 or 2 glasses of water. Never give anything by mouth to an unconscious person. IMMEDIATELY see a physician. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents.</p> <p>Notes to physician Product contains a petroleum distillate that may cause CNS symptoms. If swallowed, DO NOT induce vomiting due to the risk of aspiration posed by petroleum distillates. Careful gastric lavage may be indicated.</p>	<p>Eye protection: Use chemical splash goggles and face shield (ANSI Z87.1 or approved equivalent). Eye protection worn must be compatible with respiratory protection system employed.</p> <p>Hand protection: Chemical-resistant gloves should be worn whenever this material is handled. The glove(s) listed below may provide protection against permeation. (Gloves of other chemically resistant materials may not provide adequate protection): Neoprene gloves Gloves should be removed and replaced immediately if there is any indication of degradation or chemical breakthrough. Rinse and remove gloves immediately after use. Wash hands with soap and water.</p> <p>Skin and body protection: Use chemically resistant apron or other impervious clothing to avoid prolonged or repeated skin contact.</p> <p>Respiratory protection: A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirator's use. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Up to 10 times the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) half-mask, air-purifying respirator. Up to 50 times the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) full-facepiece, air-purifying respirator, OR fullfacepiece, airline respirator in the pressure demand mode. Above 50 times the exposure limit or Unknown: Wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode, OR full-facepiece, airline respirator in the pressure demand mode with emergency escape provision. Air-purifying respirators should be equipped with NIOSH approved (or equivalent) organic vapor cartridges and R95 or P95 filters.</p> <p>Protective measures: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.</p> <p>Engineering measures: Use explosion-proof local exhaust ventilation with a minimum capture velocity of 100 ft/min (0.5 m/sec) at the point of vapor evolution. Refer to the current edition of Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.</p>

Fire and Explosion Hazards

Extinguishing Media	Special Fire Fighting Procedures	Unusual Fire and Explosion Hazards
<p>Flash point > 93 °C (> 199.40 °F) SETAFLASH CLOSED CUP Ignition temperature 307.0 °C (585 °F) solvent Lower explosion limit No data available Upper explosion limit No data available Suitable extinguishing media: Use the following extinguishing media when fighting fires involving this material: water spray, dry chemical, alcohol-resistant foam, carbon dioxide (CO2)</p>	<p>Special protective equipment for fire-fighters: Wear self-contained breathing apparatus and protective suit. Further information: Move containers promptly out of fire zone. If removal is impossible, cool containers with water spray. Remain upwind. Avoid breathing noxious fumes from fire-exposed material. Contain run-off.</p>	<p>Closed containers may rupture via pressure build-up when exposed to fire or extreme heat.</p>

Handling and Storage

Accidental Release /Spill Measures to Take	Precautions for Storage	Handling
<p>Keep spectators away. Eliminate all ignition sources including those beyond the immediate spill area. Ventilate the area. Floor may be slippery; use care to avoid falling. Contain spills immediately with inert materials (e.g., sand, earth). Transfer liquids and solid diking material to separate suitable containers for recovery or disposal. Avoid breathing vapor. CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.</p>	<p>Avoid temperature extremes during storage; ambient temperature preferred. Store away from excessive heat (e.g. steampipes, radiators), from sources of ignition and from reactive materials. Ground all metal containers during storage and handling. Keep tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight.</p>	<p>Vapors can be evolved when material is heated during processing operations. Ground all containers when transferring material. Wash after handling and shower at end of work period</p>

Disposal/Transportation

Disposal Method	Transportation
<p>Incinerate liquid and contaminated solids in accordance with local, state, and federal regulations</p>	<p>DOT Not regulated for transport IMO/IMDG Not regulated (Not dangerous for transport) <i>Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations</i></p>

Regulations

Workplace Classification
<p>This product is considered hazardous under the OSHA Hazard Communication Standard (29 CFR 1910.1200). This product is a 'controlled product' under the Canadian Workplace Hazardous Materials Information System (WHMIS). SARA TITLE III: Section 313 Information (40CFR372) This product contains a chemical which is listed in Section 313 at or above de minimis concentrations. The following listed chemicals are present: (Quantity present is found elsewhere on this MSDS.) SARA Title III Components: Ethylbenzene 100-41-4</p>

CERCLA Information (40CFR302.4)

This material is regulated under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and the Superfund Amendments and Reauthorization Act (SARA) Title III Section 304. This material is or contains chemical(s) listed in 40 CFR Table 302.4 or nondesignated RCRA ICR substance(s). (Nondesignated ICR substances apply to materials that will not be reused.) The Reportable Quantity(s) (RQ) are listed below. Releases in excess of its reportable quantity must be reported to the National Response Center (1-800-424-8802) and to the appropriate state and local emergency response organizations.

CERCLA Components: Ethylbenzene 100-41-4 1,000 lbs RQ

Xylene 1330-20-7 100 lbs RQ

US. Toxic Substances Control Act (TSCA) All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

Legend

ACGIH American Conference of Governmental Industrial Hygienists

BAC Butyl acetate

OSHA Occupational Safety and Health Administration

PEL Permissible Exposure Limit

STEL Short Term Exposure Limit (STEL):

TLV Threshold Limit Value

TWA Time Weighted Average (TWA):

| Bar denotes a revision from prior MSDS.

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be 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.

Toxicology Information

Component: **Distillates (petroleum), hydrotreated light naphthenic** Acute inhalation toxicity; LC50 rat 17.375 mg/l

Acute dermal toxicity

LD50 rabbit > 3,160 mg/kg

Component: **Xylene**

Acute dermal toxicity

LD50 rabbit > 4,300 mg/kg

Component: **Ethylbenzene**

Acute dermal toxicity

LD50 rabbit > 15,000 mg/kg

Component: **Xylene**

Skin irritation

rabbit Moderate irritation.

Component: **Xylene**

Eye irritation

rabbit moderate to severe.

Component: **Xylene**

Subchronic toxicity

Animal studies indicate prolonged inhalation exposures may cause the following:

brain damage

Component: **Xylene**

Toxicity to reproduction

In laboratory studies, birth defects, increased fetal lethality and delayed fetal development have been observed in offspring of female animals exposed during pregnancy.

Component: **Ethylbenzene**

Subchronic toxicity

IARC assessment: this product is possibly carcinogenic to humans (Group 2B).

Component: **Ethylbenzene**

Carcinogenicity: This product contains ethylbenzene. A study conducted by the National Toxicology Program states that lifetime inhalation exposure of rats and mice to high concentrations of ethylbenzene (750 ppm) resulted in increases in certain types of cancer, including kidney tumors in rats and lung and liver tumors in mice. Incidences of testicular adenoma were increased along with increased incidences of thyroid effects in rats at 750 ppm; pituitary effects were observed in female mice at 250 ppm. These effects were not observed in animals exposed to lower concentrations of ethylbenzene (75 ppm). The study does not address the relevance of these results to humans.

Component: **Ethylbenzene**

Toxicity to reproduction

Inhalation

Ecological Information

There is no data available for this product.

Xylene

Ecotoxicity effects

Toxicity to fish LC50 Rainbow trout (*Oncorhynchus mykiss*) 96 h

13.5 mg/l

Toxicity to aquatic

invertebrates

EC50 *Daphnia magna*

150 mg/l

Ethylbenzene

Ecotoxicity effects

Toxicity to fish LC50 Rainbow trout (*Oncorhynchus mykiss*) 96 h

4.2 mg/l

Toxicity to algae EC50 Algae (*Selenastrum capricornutum*) 72 h

4.6 mg/l

Toxicity to aquatic

invertebrates

EC50 *Daphnia magna* 48 h

2.1 mg/l