



MATERIAL SAFETY DATA SHEET

Print date: 01/25/2010

Version: 2

Revision date: 01/25/2010

1. COMPANY AND PRODUCT IDENTIFICATION

Product name: FERROCOTE® 364 BF T1
Product code: 013886-01 03

Supplier:
Quaker Chemical Corporation
Quaker Park One
901 Hector Street
Conshohocken, PA 19428
610-832-4000
E-mail: she@quakerchem.com

Emergency telephone number:
* 24 HOUR TRANSPORTATION:
**CHEMTREC: 1-800-424-9300
703-527-3887 (Call collect outside of US)
* 24 HOUR EMERGENCY HEALTH & SAFETY:
**QUAKER CHEMICAL CORPORATION: (800) 523-7010(
Within US only)
Outside of US call (703) 527-3887

2. COMPOSITION/INFORMATION ON INGREDIENTS

HAZARDOUS COMPONENTS

Components	CAS No.	Weight %	OSHA Ceiling Limits	OSHA TWA (final):	ACGIH Ceiling Limits	ACGIH Exposure Limits:	Vendor Exposure Limits:
Severely hydrotreated light distillates	64742-47-8	70 - 80%		None		None	Recommend ed TWA is 1200 mg/m ³ based on total hydrocarbon vapor
Mineral Oil*	8012-95-1	20 - 30%		5mg/m ³		5 mg/m ³	None
Sulfonic acids, petroleum, calcium salts, overbased	68783-96-0	1 - 5%		None		None	
Diethylene glycol monobutyl ether	112-34-5	1 - 5%		None		None	

* May include one or more of the following CAS #: 64741-88-4, 64741-89-5, 64741-44-2, 64741-96-4, 64741-97-5, 64742-46-7, 64742-52-5, 64742-53-6, 64742-54-7, 64742-55-8, 64742-56-9, 64742-62-7, 64742-65-0, 72623-84-8, 72623-85-9, 72623-86-0, 72623-87-1, 69029-75-0 and 64741-95-3

3. HAZARDS IDENTIFICATION

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Emergency Overview

Irritating to eyes.
May cause skin irritation and/or dermatitis.
Harmful by inhalation and if swallowed.
Combustible material

Signal word:	WARNING
Principle routes of exposure:	Eyes, skin and inhalation.
Eye contact:	Irritating to eyes.
Skin contact:	Prolonged skin contact may defat the skin and produce dermatitis.
Inhalation:	May cause irritation of respiratory tract. May cause central nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion and unconsciousness. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Liver and kidney injuries may occur.
Ingestion:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Liver and kidney injuries may occur. May produce damage to red blood cells.
Physico-chemical properties:	Combustible material

4. FIRST AID MEASURES

General advice:	Take off all contaminated clothing immediately. Wash off with soap and water. If symptoms persist, call a physician.
Eye contact:	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation persists, consult a specialist.
Skin contact:	Remove and wash contaminated clothing before re-use.. Rinse immediately with plenty of water for at least 15 minutes. If a person feels unwell or symptoms of skin irritation appear, consult a physician.
Ingestion:	If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.
Inhalation:	Move to fresh air in case of accidental inhalation of vapors. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Consult a physician.
Note to physician:	This product contains petroleum distillates.
Medical condition aggravated by exposure:	Dermatitis and asthma.

5. FIRE-FIGHTING MEASURES

Flash Point (°C): 81	Flash point (°F): 178	Flash Point Method: TCC
Flammable limits in air - lower (%): Not determined	Flammable limits in air - upper (%): Not determined	
Suitable extinguishing media:	Carbon dioxide (CO ₂), Dry chemical, Foam.	

Specific hazards:	Do not allow material to contaminate ground water system. Combustible material.
Unusual hazards:	Keep away from open flames, hot surfaces and sources of ignition. Vapors are heavier than air and may spread along floors. Containers exposed to intense heat from fires should be cooled with water to prevent vapor pressure buildup which could result in container rupture.
Special protective equipment for fire-fighters:	As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.
Specific methods:	Use spark-proof tools and explosion-proof equipment. Cool containers / tanks with spray water.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapour/dust.
Environmental precautions:	Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so.
Methods for cleaning up:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal.

7. HANDLING AND STORAGE

Handling

Technical measures/precautions:	Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment.
Safe handling advice:	Do not breathe vapors or spray mist. In case of insufficient ventilation, wear suitable respiratory equipment. Wear personal protective equipment. Avoid contact with skin and eyes. Wash thoroughly after handling.

Storage

Technical measures/storage conditions:	Keep away from open flames, hot surfaces and sources of ignition. Store at room temperature in the original container.
Incompatible products:	strong oxidizing agents
Safe storage temperature:	40-100 ° F
Shelf life:	12 months

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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Components	ACGIH Ceiling Limits	ACGIH Exposure Limits:	OSHA Ceiling Limits	OSHA TWA (final):	NIOSH - Pocket Guide - TWAs:	Vendor Exposure Limits:
Severely hydrotreated light distillates		None		None	None	Recommended TWA is 1200 mg/m ³ based on total hydrocarbon vapor
Mineral Oil*		5 mg/m ³		5mg/m ³	5mg/m ³	None
Sulfonic acids, petroleum, calcium salts, overbased		None		None	None	None
Diethylene glycol monobutyl ether		None		None	None	None

Engineering measures: Provide adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment.

Personal Protective Equipment

General: Eye Wash and Safety Shower

Respiratory protection: If engineering controls do not maintain airborne concentrations to a level which is adequate to protect worker health, a NIOSH/MSHA certified respirator with organic vapor/P100 filter should be worn.

Hand protection: Neoprene gloves

Skin and body protection: Long sleeved clothing

Eye protection: Safety glasses with side-shields.

Hygiene measures: Avoid contact with skin, eyes and clothing.



9. PHYSICAL AND CHEMICAL PROPERTIES:

Physical state: liquid
Color: Clear Amber
Odor: Solvent
Boiling point/range (°C): 190.56-207.22 (Solvent)
Boiling point/range (°F): 375-405 (Solvent)
Vapor density: Not determined
Vapor pressure: Not determined
VOC Content Product (g/L) 4.04 lb/gal (EPA Method 24)
Solubility: Insoluble
Evaporation rate: Not determined
pH: NA
Flash Point (°C): 81
Flash point (°F): 178
Decomposition temperature: Not determined
Auto-ignition temperature (°C): Not determined
Density @ 15.5 ° C (g/cc) : 0.792
Bulk density @ 60 ° F (lb/gal): 6.61

9. PHYSICAL AND CHEMICAL PROPERTIES:

Solids (% by weight):	40.6%
Volatiles (% by volume) :	59.4%
Partition coefficient (n-octanol/water, log Pow):	Not determined
Explosive properties:	
- upper limit:	No data available
- lower limit:	No data available

10. STABILITY AND REACTIVITY

Stability:

Stable under recommended storage conditions.

Conditions to avoid:

Heat, flames and sparks.

Materials to avoid:

Strong oxidizing agents

Hazardous decomposition products:

Carbon oxides, Sulphur oxides

Polymerisation

Not applicable

11. TOXICOLOGICAL INFORMATION

MINERAL OIL INFORMATION: Any product containing a substance for which OSHA has established a permissible exposure limit (PEL) is considered hazardous. OSHA has established a PEL of 5 mg/m³ for worker exposure to air borne mists of mineral oils. Therefore, the presence of mineral oils brings this product within the provisions of the OSHA Hazard Communication Standard where the PEL reaches or exceeds 5 mg/m³. Health studies have shown that many petroleum hydrocarbons pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists or fumes should be minimized.

This product contains diethylene glycol monobutyl ether which has been shown to cause red blood cell hemolysis with secondary injury to the kidney & liver in laboratory animals.

Reports of animal studies using both sexes of several species have shown that kidney effects can occur in male rats after prolonged and repeated inhalation exposures to light hydrocarbon vapors of the general type represented by this product. While the effects are of low order of severity in animals, the implications of these results have not yet been determined.

No toxicological information is available on the product. Data obtained on components are summarized below.

Components	NTP:	IARC:	OSHA - Select Carcinogens	NIOSH - Selected LD50s and LC50s
Severely hydrotreated light distillates	This product does not contain any material shown to be a carcinogen by the National Toxicology Program (NTP).	This product does not contain any material shown to be a carcinogen by the International Agency for Research on Cancer (IARC).	This product does not contain any material shown to be a carcinogen by OSHA.	2000mg/kgDermal LD50Rabbit 5000mg/kgOral LD50Rat
Mineral Oil*	This product does not contain any material shown to be a carcinogen by the National Toxicology Program (NTP).	This product does not contain any material shown to be a carcinogen by the International Agency for Research on Cancer (IARC).	This product does not contain any material shown to be a carcinogen by OSHA.	22g/kgOral LD50Mouse
Sulfonic acids, petroleum, calcium salts, overbased	This product does not contain any material shown to be a carcinogen by the National Toxicology Program (NTP).	This product does not contain any material shown to be a carcinogen by the International Agency for Research on Cancer (IARC).	This product does not contain any material shown to be a carcinogen by OSHA.	20000mg/kgDermal LD50Rabbit
Diethylene glycol monobutyl ether	This product does not contain any material shown to be a carcinogen by the National Toxicology Program (NTP).	This product does not contain any material shown to be a carcinogen by the International Agency for Research on Cancer (IARC).	This product does not contain any material shown to be a carcinogen by OSHA.	3384mg/kgOral LD50Rat

12. ECOLOGICAL INFORMATION

Persistence and degradability: No information available

Mobility: No data available

Bioaccumulation: No data available

Ecotoxicity effects: No data available

Aquatic toxicity: Not Determined

Component Information

Severely hydrotreated light distillates

Ecotoxicity - Fish Species LC50 (Oncorhynchus mykiss - 96h) = 2.4 mg/L

Data:

Ecotoxicity - Water Flea LC50 (Daphnia magna - 96h) = 4720 mg/L

Data:

Sulfonic acids, petroleum, calcium salts, overbased

Ecotoxicity - Fish Species LC50 (Pimephales promelas - 96h) = 40 mg/L

Data:

Ecotoxicity - Freshwater EC50 (Pseudokirchneriella subcapitata - 96h) = 1000 mg/L

Algae Data:

Ecotoxicity - Water Flea EC50 (Daphnia magna - 48h) = 1000 mg/L
Data:

Diethylene glycol monobutyl ether

Ecotoxicity - Fish Species LC50 (Lepomis macrochirus - 96h) = 1300 mg/L
Data:

Ecotoxicity - Freshwater EC50 (Desmodesmus subspicatus - 96h) = 100 mg/L
Algae Data:

Ecotoxicity - Water Flea EC50 (Daphnia magna - 24h) = 2850 mg/L
Data: EC50 (Daphnia magna - 48h) = 100 mg/L

13. DISPOSAL CONSIDERATIONS

Waste from residues/unused products: Waste disposal must be in accordance with appropriate Federal, State, and local regulations. This product, if unaltered by use, may be disposed of by treatment at a permitted facility or as advised by your local hazardous waste regulatory authority.

Contaminated packaging: Do not re-use empty containers

Methods for cleaning up: Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Sweep up and shovel into suitable containers for disposal.

14. TRANSPORT INFORMATION

U. S. DEPARTMENT OF TRANSPORTATION:

UN/NA ID Number:	NA 1993
Proper shipping name:	Combustible liquid n.o.s.(contains hydrotreated light petroleum distillates)
Hazard Class	Combustible
Packing group:	III
Emergency Response Guide Number:	128
DOT Label(s):	For Bulk Packaging Only: Combustible

TDG (CANADA):

UN/NA ID Number:	NA 1993
Proper shipping name:	Not Regulated

IMDG/IMO:

Proper shipping name:	Not Regulated
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IATA/ICAO:

Proper shipping name:	Not Regulated
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15. REGULATORY INFORMATION

CANADIAN REGULATIONS:

Canada - WHMIS Classification Information: This product has been classified according to the hazard criteria of the CPR and the MSDS contains all the information required by the CPR.

Canadian Product Classification: B3 = combustible (flash 100 - 200F)
Class D2B

Product Classification

Graphic(s):



Component Classification Data:

Severely hydrotreated light distillates - 64742-47-8

Canada - National Pollution Release Inventory: Part 5 Substance

Mineral Oil* - 8012-95-1

WHMIS hazard class: 1 %
Uncontrolled product according to WHMIS classification criteria.

Diethylene glycol monobutyl ether - 112-34-5

WHMIS hazard class: B3 D2B
Canada - National Pollution Release Inventory: Part 5 Substance

U.S. FEDERAL REGULATIONS:

OSHA Hazard Communication Standard: This product is considered to be hazardous under the OSHA Hazard Communication Standard.

CERCLA/SARA - Hazardous Substances and their Reportable Quantities: No components are listed

CERCLA/SARA - Section 302 Extremely Hazardous Substances and TPQs: No components are listed

SARA (311, 312) hazard class: This product possesses the following SARA Hazard Categories:
Immediate Health (Acute): Yes
Delayed Health (Chronic): Yes
Flammability: Yes
Pressure: No
Reactivity: No

Severely hydrotreated light distillates - 64742-47-8

CERCLA/SARA 313 Emission reporting: Listed

Diethylene glycol monobutyl ether - 112-34-5

CERCLA/SARA 313 Emission reporting: Listed
CAA - 1990 Hazardous Air Pollutants: Listed

RCRA Status: Not Regulated

U.S. STATE REGULATIONS

(RTK):

California Proposition 65 Status: No components are listed

Mineral Oil* - 8012-95-1

MARTK: Present

PARTK: Present

Diethylene glycol monobutyl ether - 112-34-5

NJRTK: 2265

PARTK: Environmental hazard
Present

INVENTORY STATUS:

United States TSCA - Sect. 8(b) Inventory: This product complies with TSCA

Canada DSL/NDSL Inventory List This product complies with DSL

16. OTHER INFORMATION

Sources of key data used to compile the data sheet: Material safety data sheets of the ingredients.

Prepared by: Quaker Chemical Corporation -Safety, Health and Environmental Affairs Group - US

Reason for revision: This data sheet contains changes from the previous version in section(s) 3, 4, and 15.

HMIS classification:

Health:
2*

Flammability:
2

Reactivity:
0

Personal Protection:
G

HMIS Use Dilution

Health
--

Flammability
--

Reactivity
--

Personal Protection
--

NFPA rating:

Health:
2

Flammability:
2

Reactivity:
0

Special:
NA

* Indicates possible chronic health effect

Personal protection recommendations should be reviewed by purchasers. Workplace conditions are important factors in specifying adequate protection.

Disclaimer

This product's safety information is provided to assist our customers in assessing compliance with safety/health/environmental regulations. The information contained herein is based on data available to us and is believed to be accurate. However, no warranty of merchantability, fitness for any use, or any other warranty is expressed or implied regarding the accuracy of this data, the results to be obtained from the use thereof, or the hazards connected with the use of the product. Since the use of this product is within the exclusive control of the user, it is the user's obligation to determine the conditions for safe use of the product. Such conditions should comply with all regulations concerning the product. Quaker Chemical Corporation ("Quaker") assumes no liability for any injury or damage, direct or consequential, resulting from the use of this product unless such injury or damage is attributable to the gross negligence of Quaker.

End of Safety Data Sheet