SAFETY DATA SHEET

Print date: 08/28/2014 Version: 1.01 Revision date: 08/28/2014

1. COMPANY AND PRODUCT IDENTIFICATION

Product name: FERROCOTE® 711
Product code: 011338-06

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

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	40 - 50%					1200 mg/m³ (TWA; total hydrocarbon vapor)
Mineral Oil*	8012-95-1	40 - 50%		5mg/m³		5 mg/m³	None
Barium sulfonate	61790-48-5	1 - 5%					
Solvent naphtha, petroleum, med. aliphatic	64742-88-7	1 - 5%					TWA = 100 ppm as Stoddard Solvent

* 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, 64742-01-4, and 64741-95-3

3. HAZARDS IDENTIFICATION

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

Signal Word: CAUTION

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. A component may cause central nervous system depression characterized by the following progressive steps: headache, dizziness, nausea, staggering gait, confusion and unconsciousness.
Ingestion:	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Risk of product entering the lungs on vomiting after ingestion.
Physico-chemical properties:	Combustible material.

4. FIRST AID MEASURES

General advice:	Show this safety data sheet to the doctor in attendance. Remove contaminated clothing and shoes. Wash contaminated clothing before re-use. 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.
Skin contact:	Wash off immediately with soap and plenty of water Remove and wash contaminated clothing before re-use
Ingestion:	If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting: contains petroleum distillates and/or aromatic solvents. Risk of product entering the lungs on vomiting after ingestion. Never give anything by mouth to an unconscious person.
Inhalation:	Move to fresh air in case of accidental inhalation of vapors or decomposition products. If not breathing, give artificial respiration. In case of shortness of breath, 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): 77 Flash Point (°F): 170 Flash Point Method: TCC

Flammable limits in air - lower (%): Not determined	Flammable limits in air - upper (%): Not determined
Suitable extinguishing media:	Carbon dioxide (CO2), Dry chemical, Foam.
Specific hazards:	Do not allow material to contaminate ground water system. Combustible material.
Unusual hazards:	None known.

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:	Water mist may be used to cool closed containers.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:	Remove all sources of ignition. Evacuate personnel to safe areas. Ensure adequate ventilation. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Do not breathe vapour/dust. Wash thoroughly after handling
Environmental precautions:	Prevent further leakage or spillage if safe to do so. Do not flush into surface water or sanitary sewer system. Local authorities should be advised if significant spillages cannot be contained.
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. Ground and bond containers when transferring material

7. HANDLING AND STORAGE

Handling

Technical measures/precautions:	Use only in area provided with appropriate exhaust ventilation. Wear personal protective equipment.
Safe handling advice:	To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. In case of insufficient ventilation, wear suitable respiratory equipment. Wear personal protective equipment. Avoid contact with skin and eyes. Do not breathe vapors or spray mist. Wash thoroughly after handling. Keep container tightly closed.

Storage

Technical measures/storage conditions:	Keep containers tightly closed in a cool, well-ventilated place.
Incompatible products:	Strong oxidizing agents
Safe storage temperature:	40 - 100 ° F
Shelf life:	6 months

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components	OSHA Ceiling Limits	OSHA TWA (final)	ACGIH Ceiling Limits	ACGIH Exposure Limits	NIOSH - Pocket Guide	Vendor Exposure Limits
Severely hydrotreated light distillates	None	None	None	None	None	1200 mg/m³ (TWA; total hydrocarbon vapor)
Mineral Oil*	None	5mg/m³	None	5 mg/m³	5mg/m³	None

Barium sulfonate	None	None	None	None	None	None
Solvent naphtha, petroleum, med. aliphatic	None	None	None	None	None	TWA = 100 ppm as Stoddard Solvent

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-certified respirator with organic vapor/P100 filter should be worn.

Eye protection: Safety glasses with side-shields.

Hand protection: Neoprene gloves

Skin and body protection: Long sleeved clothing.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state:	Liquid
Color	Clear Dark brown
Odor	Solvent
Boiling point/range (°C):	190.56-207.22 (Solvent)
Boiling point/range (°F):	375-405 (Solvent)
Vapour density:	Not determined
Vapor pressure (kPa):	Not determined
VOC Content Product (g/L)	2.21 lb/gal (EPA Method 24)
Solubility in water	Insoluble
Evaporation rate:	Not determined
pH:	NA
Flash Point (°C):	77
Flash Point (°F):	170
Decomposition temperature (°C):	Not determined
Auto-ignition temperature (°C):	Not determined
Density @ 15.5 °C (g/cc):	0.863
Bulk density @ 60 ° F (lb/gal):	7.20
Volatiles (% by volume) :	31.3%
Partition coefficient (n-octanol/water):	Not determined
Explosive Limits:	
- 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.

Hazardous Polymerization:
Not applicable

11. TOXICOLOGICAL INFORMATION

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.

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/m^3 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/m^3. 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.

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

Components	IARC Carcinogens	NTP:	OSHA - Select Carcinogens	Acute Toxicity
Severely hydrotreated light distillates	Not listed as carcinogenic or possibly carcinogenic to humans	Not listed as known or reasonably anticipated to be a human carcinogen	Not listed as a select carcinogen	Rabbit Dermal LD50 > 2000 mg/kg Rat Inhalation LC50 > 5.2 mg/L Rat Oral LD50 > 5000 mg/kg
Mineral Oil*	Not listed as carcinogenic or possibly carcinogenic to humans	Not listed as known or reasonably anticipated to be a human carcinogen	Not listed as a select carcinogen	Mouse Oral LD50 = 22 g/kg
Barium sulfonate	Not listed as carcinogenic or possibly carcinogenic to humans	Not listed as known or reasonably anticipated to be a human carcinogen	Not listed as a select carcinogen	No data
Solvent naphtha, petroleum, med. aliphatic	Not listed as carcinogenic or possibly carcinogenic to humans	Not listed as known or reasonably anticipated to be a human carcinogen	Not listed as a select carcinogen	Rabbit Dermal LD50 = 3000 mg/kg Rat Inhalation LC50 > 5.28 mg/L Rat Oral LD50 > 5000 mg/kg

12. ECOLOGICAL INFORMATION

Persistence and degradability: No information available

Mobility: No data available

Bioaccumulation: Not available

Ecotoxicity effects: No data available

Aquatic toxicity: Not Determined.

Component Information

Components	Ecotoxicity - Fish Species Data:	Ecotoxicity - Freshwater Algae Data:	Ecotoxicity - Water Flea Data:

Severely hydrotreated light distillates	LC50 (Lepomis macrochirus - 96h) = 2.2 mg/L LC50 (Oncorhynchus mykiss - 96h) = 2.4 mg/L LC50 (Pimephales promelas - 96h) = 45 mg/L	No data	LC50 (Den-dronereides heteropoda - 96h) = 4720 mg/L
Mineral Oil*	No data	No data	No data
Barium sulfonate	No data	No data	No data
Solvent naphtha, petroleum, med. aliphatic	800	>100mg/L 450	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. Ground and bond containers when transferring material

Components
Barium sulfonate
61790-48-5

US EPA Waste Number	D005
RCRA - Hazardous Constituents - Appendix:	hazardous constituent - no waste number

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
PG:	III
DOT ERG:	ERG 128
Additional DOT Information:	When in individual containers of less than 119 gallons, this material ships as non-regulated.
DOT Label(s):	For Bulk Packaging Only: Combustible

TDG (CANADA):

Proper shipping name:	Combustible liquid n.o.s.(contains hydrotreated light petroleum distillates)
TDG Hazard Classification:	Combustible
Packing group:	III

IMDG/IMO:

Proper shipping name:	Not Regulated

IATA/ICAO:

Proper shipping name: Not Regulated

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: Class B

Product Classification Graphic(s):

Component Classification Data:

Components	WHMIS hazard class	CEPA Schedule I	Challenge Substances
Severely hydrotreated light distillates	B3 D2B	Not listed	Not listed
Mineral Oil*	1% Uncontrolled product according to WHMIS classification criteria.	Not listed	Not listed
Barium sulfonate	None	Not listed	Not listed
Solvent naphtha, petroleum, med. aliphatic	B3	Not listed	Not listed

U.S. FEDERAL REGULATIONS:

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

CERCLA/SARA Information:

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

Components	Hazardous Substances and RQs	Extremely Hazardous Substances and TPQs	SARA 313 Emission Reporting

Severely hydrotreated light distillates	Not listed	Not listed	Not listed
Mineral Oil*	Not listed	Not listed	Not listed
Barium sulfonate	Not listed	Not listed	1.0 %
Solvent naphtha, petroleum, med. aliphatic	Not listed	Not listed	Not listed

Clean Air and Clean Water Acts:

Components	Hazardous Air Pollutants	CWA - Hazardous Substances	CWA - Toxic Pollutants	CWA - Priority Pollutants
Severely hydrotreated light distillates	Not listed	Not listed	Not listed	Not listed
Mineral Oil*	Not listed	Not listed	Not listed	Not listed
Barium sulfonate	Not listed	Not listed	Not listed	Not listed
Solvent naphtha, petroleum, med. aliphatic	Not listed	Not listed	Not listed	Not listed

RCRA Status: As supplied, product contains theorectical water-soluble barium >100ppm: D005

U.S. STATE REGULATIONS (RTK):

Components	California Proposition 65	PARTK	MI Critical Materials	NJRTK	MARTK
Severely hydrotreated light distillates	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Mineral Oil*	Not Listed	Present	Not Listed	1437	Present
Barium sulfonate	Not Listed	Environmental hazard	Not Listed	2146	Not Listed
Solvent naphtha, petroleum, med. aliphatic	Not Listed	Not Listed	Not Listed	4006	Not Listed

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: New modification.

HMIS classification:	HMIS Use Dilution	NFPA rating:
Health:	Health	Health:
2 *	--	2

Flammability:	Flammability	Flammability:
2	--	2
Reactivity:	Reactivity	Reactivity:
0	--	0
Personal Protection:	Personal Protection	Special:
G	--	NA

* Indicates possible chronic heath 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