



SAFETY DATA SHEET

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1. COMPANY AND PRODUCT IDENTIFICATION

Product identifier

Product Name: EVOLUBE R600
Product code: 016348-01

Other means of identification

Synonyms No information available

Application

Recommended Use Lubricating Grease
Uses advised against For industrial use only

Supplier/Manufacturer:

Supplier:
ENGINEERED CUSTOM LUBRICANTS (ECL)
3851 Exchange Avenue
Aurora, IL 60504 USA
Phone: (630)449-5000
Email: 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. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Skin corrosion/irritation	Category 1 Sub-category B
Serious eye damage/eye irritation	Category 1
Respiratory Sensitization	Category 1A
Skin Sensitization	Category 1
Reproductive toxicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 2
Acute aquatic toxicity	Category 1
Chronic aquatic toxicity	Category 1

Label Elements

Emergency Overview

DANGER

Hazard Statements

Causes severe skin burns and eye damage
May cause allergy or asthma symptoms or breathing difficulties if inhaled
May cause an allergic skin reaction
Suspected of damaging fertility or the unborn child
May cause damage to organs through prolonged or repeated exposure
Very toxic to aquatic life with long lasting effects



Appearance Blue

Physical State Semi-Solid

Odor Mild Petroleum

Precautionary Statements - Prevention

Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
In case of inadequate ventilation wear respiratory protection
Contaminated work clothing should not be allowed out of the workplace
Wear protective gloves
Avoid release to the environment

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
Specific treatment (see First Aid on this label)
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing Immediately call a POISON CENTER or doctor/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower Wash contaminated clothing before reuse If skin irritation or rash occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Immediately call a POISON CENTER or doctor/physician
IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
Collect spillage

Precautionary Statements - Storage

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None known

Other Information

None known.

Unknown acute toxicity

0% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS No	Weight %
Amines, tallow alkyl	61790-33-8	1 - 5%
Diphenylmethane-4,4' -diisocyanate	101-68-8	1 - 5%
Cyclohexylamine	108-91-8	1 - 5%
Diphenylmethane diisocyanate (MDI)	26447-40-5	<1%

The exact percentage (concentration) of composition has been withheld as a trade secret.

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:	Remove and wash contaminated clothing before re-use. Wash off immediately with soap and plenty of water.
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:	Treat symptomatically.
Medical condition aggravated by exposure:	None known.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media:	Use dry chemical, CO2, water spray or `alcohol` foam.
Specific hazards:	Do not allow material to contaminate ground water system.
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:	Ensure adequate ventilation. Do not breathe vapour/dust. Use personal protective equipment. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling.
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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: Provide sufficient air exchange and/or exhaust in work rooms.

Safe handling advice: In case of insufficient ventilation, wear suitable respiratory equipment. Do not breathe vapors or spray mist. Wear personal protective equipment. Avoid contact with skin and eyes. Wash thoroughly after handling.

Storage

Technical measures/storage conditions: Store at room temperature in the original container.

Incompatible products: Strong oxidizing agents

Safe storage temperature: 40 - 100 ° F

Shelf life: 36 months

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components	ACGIH Exposure Limits	OSHA TWA (final)	NIOSH - Pocket Guide
Mineral Oil	5 mg/m ³	5mg/m ³	5mg/m ³
Calcium carbonate	None	None	10 mg/m ³ (TWA) 5 mg/m ³ (TWA)
Diphenylmethane-4,4'-diisocyanate	0.005 ppm	None	0.005ppmTWA 0.020ppmCeiling 0.05mg/m ³ TWA 0.2mg/m ³ Ceiling
Cyclohexylamine	10 ppm (TWA)	None	10 ppm (TWA) 40 mg/m ³ (TWA)

Engineering measures: Ensure adequate ventilation

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	Semi-Solid
Appearance	Blue
Odor	Mild Petroleum
Odor Threshold	No information available
pH concentrate:	No information available
pH Dilution	No information available
Melting/freezing point	No information available
Boiling Point/Range	No information available
Flash Point	198 °C / 383 °F
Method	Cleveland Open Cup (COC)
Evaporation rate	No information available
Flammability Limits in Air	
upper flammability limit	No information available
lower flammability limit	No information available
VOC Content Product (lb/gal)	No information available
Vapor pressure	No information available
Vapor density	No information available
Specific Gravity (g/cc, 15 C)	No information available
Density @ 25 ° C. (g/cc):	0.94
Bulk Density @ 77° F. (lb/gal):	7.84
Water Solubility	Insoluble
Solubility in other solvents	No information available

Partition coefficient: n-octanol/water	No information available
Autoignition temperature	No information available
Decomposition Temperature	No information available
Kinematic viscosity	No information available
Dynamic viscosity	No information available
Molecular Weight	No information available

10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage conditions.
Conditions to avoid:	None known.
Materials to avoid:	Strong oxidizing agents.
Hazardous decomposition products:	None under normal use.
Hazardous Polymerization:	Not applicable.

11. TOXICOLOGICAL INFORMATION

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

Information on likely routes of exposure

Inhalation	May cause irritation of respiratory tract.
Eye Contact	Causes serious eye damage.
Skin Contact	Contact causes severe skin irritation and possible burns. May cause sensitization by skin contact.
Ingestion	Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Components	LD50 Oral	LD50 Dermal	LC50 Inhalation
Amines, tallow alkyl	= 1400 mg/kg (Rat) Oral LD50 Rat 1400 mg/kg (Source: IUCLID)	-	-
Diphenylmethane-4,4'-diisocyanate	= 31600 mg/kg (Rat) Oral LD50 Rat 31600 mg/kg (Source: JAPAN_GHS)	-	= 369 mg/m ³ (Rat) 4 h Inhalation LC50 Rat 369 mg/m ³ 4 h (Source: NZ_CCID)
Cyclohexylamine	= 11 mg/kg (Rat) Oral LD50 Rat 11 mg/kg (Source: NLM_CIP)	= 277 mg/kg (Rabbit) Dermal LD50 Rabbit 277 mg/kg (Source: JAPAN_GHS)	= 1000 ppm (Rat) 16 h Inhalation LC50 Rat 1000 ppm 16 h (vapor, Source: JAPAN_GHS)
Diphenylmethane diisocyanate (MDI)	> 10000 mg/kg (Rat)	> 10000 mg/kg (Rabbit)	= 490 mg/m ³ (Rat) 4 h

	Oral LD50 Rat >10000 mg/kg (Source: OECD_SIDS)	Dermal LD50 Rabbit >10000 mg/kg (Source: OECD_SIDS)	Inhalation LC50 Rat 490 mg/m ³ 4 h (aerosol, Source: OECD_SIDS)
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Delayed and immediate effects as well as chronic effects from short and long-term exposure

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen

Components	IARC Carcinogens	NTP	OSHA - Select Carcinogens
Amines, tallow alkyl	Not listed	Not listed	Not listed
Diphenylmethane-4,4'-diisocyanate	Group 3	Not listed	Not listed
Cyclohexylamine	Group 3	Not listed	Not listed
Diphenylmethane diisocyanate (MDI)	Group 3	Not listed	Not listed

Sensitization Product contains a component that is classified as a skin sensitizer. No studies have been conducted on the product itself.

Mutagenic effects: No information available.

Reproductive Toxicity Product contains a component that is classified as a reproductive hazard. No testing has been conducted on the product itself.

Developmental Toxicity No information available.

Teratogenic No information available.

Specific target organ systemic toxicity (single exposure) No information available.

Specific target organ systemic toxicity (repeated exposure) May cause disorder and damage to the, Skin, Respiratory system.

Aspiration hazard No information available.

Additional information on toxicological effects

No information available

12. ECOLOGICAL INFORMATION

Components	Ecotoxicity - Fish Species Data:	Ecotoxicity - Freshwater Algae Data:	Ecotoxicity - Water Flea Data:
Amines, tallow alkyl	0.18 - 0.25 mg/L LC50	= 0.068 mg/L EC50 = 0.007 mg/L EC50	No data
Diphenylmethane-4,4'-diisocyanate	LC50 (Zebra fish - 96h) > 1000 mg/l	EC50 (Daphnia magna - 48h) > 1000 mg/l	No data
Cyclohexylamine	44 - 90 mg/L LC50 = 470 mg/L LC50	= 20 mg/L EC50	EC50 (Daphnia magna - 24h) = 49 mg/L
Diphenylmethane diisocyanate (MDI)	No data	No data	EC50 (Daphnia magna - 24h) = 1000 mg/L

0% of the mixture consists of components(s) of unknown hazards to the aquatic environment

Persistence and Degradability No information available.

Bioaccumulation No information available.

Components	Octanol/water partition coefficient
Amines, tallow alkyl	-
Diphenylmethane-4,4'-diisocyanate	-
Cyclohexylamine	1.2
Diphenylmethane diisocyanate (MDI)	4.5

Mobility: No data available

Ozone: No data available

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: Take up mechanically and collect in suitable container for disposal.

14. TRANSPORT INFORMATION

U. S. DEPARTMENT OF TRANSPORTATION:

Proper shipping name: Not Regulated

TDG (CANADA):

UN nr: UN3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS ALKYL AMINES)
TDG Hazard Classification: 9
Packing group: III

IMDG/IMO:

UN nr: UN3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS ALKYL AMINES)
Class: 9
Packing group: III
Limited quantity: 5 L

IATA/ICAO:

UN nr: UN3082
Proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CONTAINS ALKYL AMINES)
Packing group: III
Maximum quantity for cargo only: 450 L

Maximum quantity for passenger:
 Limited quantity:

450 L
 30 kg G

15. REGULATORY INFORMATION

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: No
Pressure: No
Reactivity: No

Components	Hazardous Substances and RQs	Extremely Hazardous Substances and TPQs	SARA 313 Emission Reporting
Amines, tallow alkyl	Not listed	Not listed	Not listed
Diphenylmethane-4,4'-diisocyanate	5000 lb	Not listed	= 1.0 % de minimis concentration Chemical Category N120 = 1.0 % de minimis concentration Listed under `Diisocyanates`
Cyclohexylamine	Not listed	10000 lb	Not listed
Diphenylmethane diisocyanate (MDI)	Not listed	Not listed	1.0 %

Clean Air and Clean Water Acts:

Components	Hazardous Air Pollutants	CWA - Hazardous Substances	CWA - Toxic Pollutants	CWA - Priority Pollutants
Amines, tallow alkyl	Not listed	Not listed	Not listed	Not listed
Diphenylmethane-4,4'-diisocyanate	Present	Not listed	Not listed	Not listed
Cyclohexylamine	Not listed	Not listed	Not listed	Not listed
Diphenylmethane diisocyanate (MDI)	Not listed	Not listed	Not listed	Not listed

U.S. STATE REGULATIONS (RTK):

Components	California Proposition 65	PARTK	MI Critical Materials	NJRTK	MARTK
Amines, tallow alkyl	Not Listed	Not Listed	Not Listed	Not Listed	Not Listed
Diphenylmethane-4,4'-diisocyanate	Not Listed	Environmental hazard	Not Listed	sn 1253	Present
Cyclohexylamine	Not Listed	Environmental hazard	Not Listed	0576	Extraordinarily hazardous

Diphenylmethane diisocyanate (MDI)	Not Listed	Not Listed	Not Listed	3757	Present
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California Proposition 65 Status: No components are listed

RCRA Status: Not regulated

CANADIAN REGULATIONS:

Components	CEPA Schedule I	Challenge Substances
Amines, tallow alkyl	Not listed	Not listed
Diphenylmethane-4,4'-diisocyanate	Listed	Not listed
Cyclohexylamine	Listed	Not listed
Diphenylmethane diisocyanate (MDI)	Not listed	Not listed

INVENTORY STATUS:

United States TSCA 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 Material safety data sheets of the ingredients.
the data sheet:

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

Revision Date: 02/02/2017

Reason for revision: New formulation.

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. The company referenced in this Safety Data Sheet 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 such company.

End of Safety Data Sheet