

200 Yellow Place • Rockledge, FL 32955

PH: (321) 631-3550 • FAX: (321) 631-3552

E-mail: info@mainstream-engr.com

MATERIAL SAFETY DATA SHEET

PREPARATION DATE: 06/30/2003
REVISION DATE: 9/17/2009 REV. 5

Harmful if swallowed.
Causes skin irritation.
Aspiration may cause lung damage.

SECTION 1 – PRODUCT & COMPANY INFORMATION

PRODUCT NAME: QwikClean Foaming Coil Cleaner
PRODUCT NO.: QT2770
DESCRIPTION: HVAC Evaporator Coil Cleaner
USE: Evaporator Coil Cleaner
APPEARANCE: Foaming Liquid

MANUFACTURER: Mainstream Engineering Corp.
200 Yellow Place
Rockledge, Florida 32955

INFORMATION TELEPHONE: 321-631-3550
EMERGENCY TELEPHONE: 321-631-3550

SECTION 2 – PRODUCT COMPOSITION INFORMATION

COMPONENT*	% BY WEIGHT	AFTER 8x DILUTION
Cleaner 1	51%	6%
Cleaner 2	43%	5%
Surfactant	6%	<1%
Water	0%	approx. 89%

* TRADE SECRET - PROPRIETARY FORMULA. Specific chemical identities are withheld as a trade secret under the provisions of OSHA hazard communication standard 29 CFR 1910.1200.

SECTION 3 – HAZARDS IDENTIFICATION

EXPOSURE LIMITS:

Cleaner 2: (1) OSHA Permissible Exposure Limit (PEL), 400 ppm (TWA); (2) ACGIH Threshold Limit Value (TLV), 200 ppm (TWA), 400 ppm (STEL), A4 - not classifiable as a human carcinogen.

Surfactant trace component (<0.001%): (1) OSHA PEL, 1 ppm (TWA) and 5 ppm (STEL); (2) ACGIH TLV, 1 ppm (TWA), A2 - suspected human carcinogen

None established by OSHA, ACGIH, or UCC for other major constituents.

RATINGS:

	Health	Flammability	Reactivity
Cleaner 1	1	2	0
Cleaner 2	2	3	2
Surfactant	2	1	0

PRECAUTIONARY STATEMENTS:

Causes eye burns.

POTENTIAL HEALTH EFFECTS:

Eye: Causes severe irritation, experienced as discomfort or pain, excess blinking and tear production, marked redness and swelling of the conjunctiva, and chemical burns of the cornea. Iritis may occur.

Skin: Brief contact is not irritating. Prolonged or repeated contact may cause discomfort and local redness. No evidence of harmful effects of skin absorption from available information.

Ingestion: May cause abdominal discomfort, nausea, vomiting, and diarrhea. Aspiration into the lungs may occur during ingestion or vomiting, resulting in lung injury.

Inhalation: Mist may cause irritation of the respiratory tract, experienced as nasal discomfort and discharge, with chest pain and coughing. High vapor concentrations are irritating to the eyes and the respiratory tract may cause headaches and dizziness.

SECTION 4 - EFFECTS OF OVEREXPOSURE

No adverse effects of overexposure anticipated from available information. A knowledge of the available toxicity information and of the physical and chemical properties of the material suggests that overexposure is unlikely to aggravate existing medical conditions.

SECTION 5 - EMERGENCY & FIRST-AID PROCEDURES

SKIN: Remove contaminated clothing. Wash exposed area with soap and water. Obtain medical attention if irritation persists. Launder clothing before reuse.

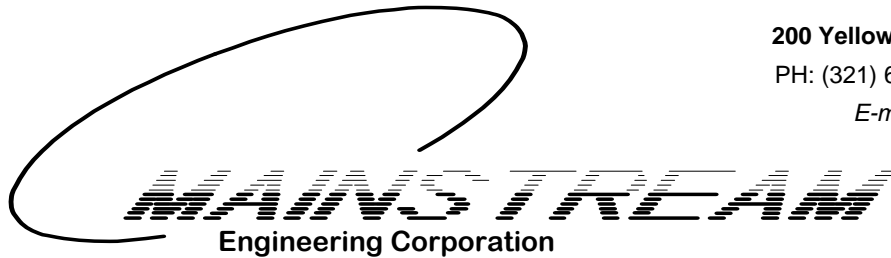
EYES: Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower lids. DO NOT remove contact lenses, if worn. Get medical aid immediately, preferably from an ophthalmologist.

INGESTION: If patient is fully conscious, give two glasses of fresh water. DO NOT INDUCE VOMITING. Obtain medical attention.

INHALATION: If symptoms develop, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Keep at rest.

NOTES TO PHYSICIAN:

There is no specific antidote. Treatment of overexposure should be directed at the control of symptoms and the clinical condition of the patient. Any material aspirated during vomiting may cause lung injury. Therefore, emesis should not be induced mechanically or pharmacologically. If it is considered necessary to evacuate the stomach contents, this should be done by means least likely to cause



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aspiration (e.g., gastric lavage after endotracheal intubation).

SECTION 6 - PHYSICAL AND CHEMICAL DATA

PHYSICAL STATE: Liquid

APPEARANCE: blue

ODOR: Slight odor

pH: 7.0

BOILING POINT: approx. 84°C

VAPOR PRESSURE: components- Cleaner 1 (2 mm Hg) at 20 C, Cleaner 2 (31 mm Hg), Surfactant (<0.01 mm Hg) at 20 C

VAPOR DENSITY (AIR = 1): Not determined

SPECIFIC GRAVITY (WATER = 1): approx. 0.8

PERCENT VOLATILES: 43% (by mass)

EVAPORATION RATE: Medium/Fast

FREEZING POINT: Not Determined

SOLUBILITY IN WATER: soluble

SECTION 7 – REACTIVITY DATA

CHEMICAL STABILITY: Stable.

CONDITIONS TO AVOID: Prolonged excessive heat may cause product decomposition.

INCOMPATIBILITIES WITH OTHER MATERIALS:

Normally unreactive, however, avoid strong bases at high temperatures, strong acids, strong oxidizing agents, aldehydes, halogen compounds and materials reactive with hydroxyl compounds and alcohols. Do Not Store or Handle in Aluminum Equipment at temperatures above 120°F.

HAZARDOUS POLYMERIZATION: Will not occur.

SECTION 8 - FIRE AND EXPLOSION INFORMATION

FLASH POINT: approx. 12 C

FLAMMABILITY LIMITS: For Cleaner 1, LEL = 0.7%, UEL = 6.1%. For Cleaner 2, LEL=2.0%, UEL=12.7%.

AUTOIGNITION TEMPERATURE: Not currently available.

EXTINGUISHING MEDIA: Apply alcohol-type or all-purpose-type foams by manufactures' recommended techniques for large fires; carbon dioxide or dry chemical media for small fires. Do not use water --- handle as oil fire.

HAZARDOUS DECOMPOSITION PRODUCTS: Burning can produce the following products: carbon monoxide and/or carbon dioxide. Carbon monoxide is highly toxic if inhaled. Carbon dioxide in sufficient concentrations can act as an asphyxiant.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus and protective clothing.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors are heavier than air and may travel along floor to ignition source.

SECTION 9 - HANDLING, STORAGE, AND DISPOSAL

SPILLS/LEAKS: Contain spills immediately with inert materials (e.g. sand, earth). Transfer liquids and solid

diking material to suitable containers for recovery or disposal. To avoid gelling and foaming problems, do not use water to flush away spills. Wear suitable protective equipment. Floor may be slippery. Avoid discharge to natural waters.

HANDLING: Keep container closed. Use with safety glasses. Wash thoroughly and immediately after handling or wear gloves. Use only in a well ventilated area. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.

STORAGE: Store in accordance with good industrial practices.

DISPOSAL: Dispose of in a manner consistent with federal, state, and local regulations. Empty containers should be recycled or disposed of through an approved waste management facility.

SECTION 10 - TOXICOLOGICAL INFORMATION

LD50, LC50:

Cleaner 1: LD50 dermal rabbit >5 g/kg, LD50 oral rat >5 g/kg, LD50 oral mouse 4.4-5.6 g/kg. Lowest published toxic dose: 3.5-14.2 g/kg (oral, mouse), 20 g/kg (oral rat), 3.3 g/kg (oral, rabbit)

Cleaner 2: LD50 oral rat 5045 mg/kg, LD50 dermal rabbit 12.8 g/kg; LC50 inhalation rat: 16,000 ppm/8-hour; investigated as a tumorigen, mutagen, reproductive effector.

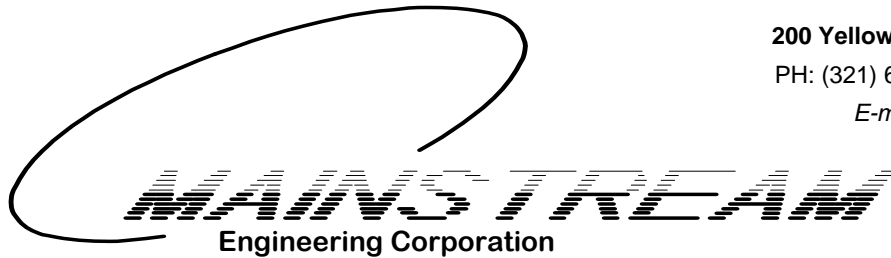
Surfactant: LD50 oral rat 1.8 g/kg. This product may contain trace amounts of ethylene oxide (<0.001%) and dioxane (<0.0055%). Ethylene oxide is a potential occupational carcinogen regulated by OSHA. Dioxane is considered by NIOSH to be a potential occupational carcinogen.

CARCINOGENICITY: Contains traces of 1,4-dioxane and ethylene oxide that are known to be a human carcinogen. With adequate ventilation, these trace amounts are not expected to result in any short or long term hazard.

REPRODUCTIVE EFFECTS: Contains 1,4-dioxane and ethylene oxide that are known to the State of California to cause birth defects or other reproductive harm. With adequate ventilation, these trace amounts are not expected to result in any short or long term hazard.

ECOTOXICITY: May be harmful to aquatic organisms. For Cleaner 2 and Surfactant, the LC50/96-hour values for fish are > 100 mg/l and 1-10 mg/l, respectively.

ENVIRONMENTAL FATE: When released into the soil, this material is expected to partially evaporate. When released into the soil, this material is expected to biodegrade to a moderate extent. When released to water, this material is expected to have a half-life between 1 and 10 days and biodegrade to a moderate extent. This material is not expected to significantly bioaccumulate. Any vapors released into the air are expected to be degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is expected to have a half-life between 1 and 10 days. When released into the air, this material may be removed from the atmosphere to a moderate extent by wet deposition.



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SECTION 11 - ADDITIONAL INFORMATION

EPA TSCA: All ingredients listed on the TSCA Inventory or are exempt from TSCA Inventory requirements.

FEDERAL//STATE//LOCAL REGULATIONS: The following components of this product are listed as either hazardous substances or toxic chemicals in 40 CFR Parts 302.4, 355, and 372 and are present in levels that could require reporting: glycol ethers ($\leq 0.30\%$), 1,4-dioxane ($\leq 0.0008\%$), ethylene oxide ($\leq 0.1112\%$).

DOT: The chemicals and/or the quantities in this product are not regulated by DOT.

The information contained herein is believed to be accurate and is offered in good faith. The above information is, in part, based on material safety data sheets supplied by the vendors of the raw materials used in this product. Because product use is beyond our control, no warranty is given, expressed, or implied. Mainstream Engineering Corporation cannot assume any liability for the use of information contained herein or from damage resulting from handling or contact with the above product. To determine applicability or effect of any law or regulation with respect to the product, users should consult a legal advisor or appropriate governmental agency.