



200 Yellow Place • Rockledge, FL 32955

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

E-mail: info@mainstream-engr.com

Safety Data Sheet

REVISION DATE: 05/21/2015

SECTION 1 - PRODUCT & COMPANY INFORMATION

PRODUCT NAME: Qwik System Flush
DESCRIPTION: A/C & Refrigeration System Flush
USE: Flushing Residue from HVAC lines

MANUFACTURER: Mainstream Engineering Corporation
 200 Yellow Place
 Rockledge, Florida 32955

INFORMATION TELEPHONE: 321-631-3550**EMERGENCY TELEPHONE:** 800-424-9300

SECTION 2 - HAZARDS IDENTIFICATION

GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910

(OSHA HCS):

Skin irritation (Category 2), H315
 Eye irritation (Category 2A), H319

HAZARD STATEMENT(S):

H281 Contains refrigerated gas; may cause cryogenic burns or injury.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H333 May be harmful if inhaled.
 H360 May damage fertility or the unborn child.
 H373 May cause damage to organs through prolonged or repeated exposure

PICTOGRAM(S):

**SIGNAL WORD:** Warning

PRECAUTIONARY STATEMENT(S):

P101 If medical advice is needed, have product container or label at hand.
 P102 Keep out of reach of children.
 P251 Do not pierce or burn, even after use.
 P261 Avoid breathing fumes/mist/vapors/spray.
 P262 Do not get in eyes, on skin, or on clothing.
 P263 Avoid contact during pregnancy/while nursing.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P301+330+331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302+352

IF ON SKIN: Wash contaminated areas with plenty of water.

P304+340

IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+351+338

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing.

P336 Thaw frosted parts with lukewarm water. Do not rub affected areas.

P337+313

If eye irritation persists seek medical attention.

P370+380

In case of fire: Evacuate area.

P403 + P235

Store in a well-ventilated place. Keep cool.

P501 Dispose of contents/ container to an approved waste disposal plant.

HAZARDS NOT OTHERWISE CLASSIFIED BY GHS: none

SECTION 3 - PRODUCT COMPOSITION INFORMATION

COMPONENT % BY WEIGHT

Flushing Agent*	100.0%
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* 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 4 - EMERGENCY & FIRST-AID PROCEDURES

SKIN: Immediately wash area with soap and water.

Remove contaminated clothing and wash. If frostbite occurs, flush affected areas with lukewarm water. Do not use hot water. Call a physician.

EYES: Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes,



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occasionally lifting the upper and lower lids. Get medical aid immediately, preferably from an ophthalmologist.

INGESTION: In case of accidental ingestion, give large amounts of water provided person is conscious. Do not induce vomiting. Call a physician.

INHALATION: Immediately remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SECTION 5 – FIRE-FIGHTING MEASURES

EXTINGUISHING MEDIA: This product is a nonflammable aerosol. Use an extinguishing agent which is appropriate for the surrounding fire, preferably dry-chemical, carbon dioxide, foam, or water spray/fine mist.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus in positive pressure mode with confined face piece.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Never use a welding or cutting torch on or near pressurized container. This product can emit toxic and corrosive fumes under combustion conditions.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND

EMERGENCY PROCEDURES: Use personal protective equipment outlined in section 8 for normal handling and clean-up of this material.

Remove all sources of ignition from the vicinity if possible.

Evacuate area. Ventilate area using forced ventilation, especially in lower enclosed places where heavy vapors might collect. Evacuate personnel to safe areas.

ENVIRONMENTAL PRECAUTIONS: Prevent release to the environment if possible. Do not flush product into drains or sewer lines. Containment may require excavation of contaminated soil.

MATERIALS FOR CONTAINMENT AND CLEAN-UP: Use a nonflammable absorbent material for clean-up. Place in container for disposal according to local regulations.

REFERENCE TO OTHER SECTIONS: For additional disposal directions and reporting requirements, please refer to Section 13.

SECTION 7 – HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING: Keep container closed when not in use. Use good personal hygiene practices in accordance with this material. Avoid getting the product in eyes or on skin. Remove contaminated clothing and clean before re-use. Wash hands after handling this product.

Make sure there is adequate ventilation in order to minimize exposure to possible vapors. In the event of a release and exposure, evacuate personnel to safe areas.

Keep away from heat and flame. Use non-sparking tools.

Use personal protective equipment outlined in section 8 for normal handling of this material.

STORAGE: Store in a cool, dry location. Keep container tightly closed. Do not store near heat, flame, strong oxidants. Maintain adequate ventilation. Keep away from children.

SECTION 8 – EXPOSURE CONTROLS AND PERSONAL PROTECTION MEASURES

EXPOSURE LIMITS: No data available

ENGINEERING CONTROLS: In enclosed environments, exhaust ventilation by explosion-proof mechanical means may be necessary to control air contaminants below specified exposure limits. Handle product in accordance with good industrial hygiene and safety practice.

PERSONAL PROTECTIVE EQUIPMENT: Please wear appropriate person protective equipment for handling of this product as indicated below.

EYE PROTECTION: Chemical splash goggles are advised.

SKIN PROTECTION: Use gloves of an appropriate material (Viton® or PVC gloves recommended) to minimize exposure. Do not use natural rubber gloves.

RESPIRATORY PROTECTION: Engineering or administrative controls should be implemented to reduce exposure during normal handling of this product. If the workplace exposure limits are exceeded (ventilation is not adequate), then a NIOSH/MSHA approved air supplied respirator is advised.

SECTION 9 - PHYSICAL AND CHEMICAL DATA



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APPEARANCE: Clear, colorless liquid
ODOR: Mild sweet odor
ODOR THRESHHOLD: No data available
pH: No data available
FLASH POINT: No data available
AUTOIGNITION TEMPERATURE: No data available
FLAMMABILITY: Nonflammable
EXPLOSION LIMITS: No data available
MELTING POINT: No data available
BOILING POINT (760 mm Hg): 68 °C (154.4 °F)
VAPOR PRESSURE: No data available
VAPOR DENSITY (AIR = 1): No data available
SPECIFIC GRAVITY (WATER = 1): 1.29
SOLUBILITY: No data available
PARTITION COEFFICIENT: No data available
(N-OCTANOL/WATER)
DECOMPOSITION TEMPERATURE: No data available
VISCOSITY: No data available
VOC CONTENT: 100 %
EVAPORATION RATE: No data available
(N-BUTYL ACETATE = 1)

SECTION 10 – STABILITY AND REACTIVITY

REACTIVITY: No data available.
CHEMICAL STABILITY: Stable when handled or stored under the recommended conditions.
POSSIBILITY OF HAZARDOUS REACTIONS: Avoid contact with strong bases, oxidizing agents, heat, sparks or flame. Avoid contact with reactive metals especially at high temperature. Avoid alkali, alkaline earth metals, and molten salts. Do not expose to extremes of temperature.
HAZARDOUS POLYMERIZATION: Product will not undergo hazardous polymerization
CHEMICAL INCOMPATIBILITY: Avoid contact with strong oxidizing agents and alkali metals.
HAZARDOUS DECOMPOSITION PRODUCTS: Decomposition products are hazardous. Can be decomposed by temperatures (open flame or glowing metal surface) forming halogen acids, carbon monoxide, carbon dioxide and possibly carbonyl halides.

SECTION 11 - TOXICOLOGICAL INFORMATION

PRIMARY ROUTES OF ENTRY: Inhalation, skin absorption, skin contact, eye contact, ingestion.

INFORMATION ON TOXICOLOGICAL EFFECTS

ACUTE TOXICITY:

No data available

ACUTE SYMPTOMS: Increased susceptibility to any effects may be observed in persons with pre-existing disease of the central nervous system, cardiovascular system, skin or eyes. Prolonged skin contact may cause drying and cracking.

DELAYED EFFECTS: Ingestion or inhalation of high concentrations of vapor is harmful and may cause central nervous system depression, anesthesia, heart irregularities, unconsciousness, disorientation or death.

CHRONIC EFFECTS:

MUTAGENICITY: No evidence of a mutagenic effect.

TERATOGENICITY: No evidence of a teratogenic effect (birth defect).

SENSITIZATION: No evidence of a sensitization effect.

REPRODUCTIVE: Animal data show slight fetotoxicity but only at exposure levels producing other toxic effects in the adult animal. May cause congenital malformation in a fetus. May damage an unborn child.

Presumed human reproductive toxicant. Animal data also show sterility or other reproductive effects may occur.

CHRONIC SYMPTOMS: Repeated inhalation of high concentrations may cause lung, liver, kidney, urinary, blood, bone marrow, heart, eye, central nervous system, gastrointestinal, reproductive, developmental and fertility effects. Exposure may cause headache and dizziness, loss of balance, unconsciousness. May cause changes in the blood count, immunosuppression. Toxic effects on the liver or lung may occur at doses causing anesthesia.

CARCINOGENICITY

IARC No component of this product, present at levels greater than or equal to 0.1%, is identified as probable, possible or confirmed human carcinogen by IARC.

NTP No component of this product, present at levels greater than or equal to 0.1%, is identified as a known or anticipated carcinogen by NTP.

OSHA No component of this product, present at levels greater than or equal to 0.1%, is identified as a carcinogen or potential carcinogen by OSHA.

SECTION 12 - ECOLOGICAL INFORMATION

TOXICITY: No data available.



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PERSISTENCE AND DEGRADABILITY: At least one component of this product is considered *not readily biodegradable*.

BIOACCUMULATION: No data available

SOIL TO GROUNDWATER MOBILITY: No data available

OTHER ADVERSE EFFECTS: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Product can be harmful to aquatic life with long lasting effects.

consult a legal advisor or appropriate governmental agency.

PREPARATION INFORMATION

Mainstream Engineering Corporation
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Version: 3
Revision Date: 05/21/2015

SECTION 13 – DISPOSAL CONSIDERATIONS

DISPOSAL METHODS: Place in covered hazardous chemical waste containers outdoors, away from open flames and remove to a permitted waste disposal facility. Do not flush to sewer. Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer to assure compliance.

SPECIAL CONSIDERATIONS FOR DISPOSAL: Burn in a chemical incinerator equipped with an afterburner and scrubber but care should be taken as concentrated vapors may become flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

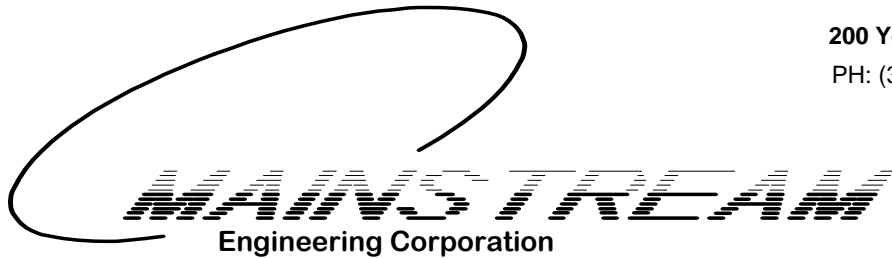
SECTION 14 – TRANSPORT INFORMATION

DOT SHIPPING CLASS: ORM-D

SECTION 16 – OTHER INFORMATION

HMIS RATING:
Health hazard: 2
Flammability: 0
Physical Hazard: 1
Personal Protection: C

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



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MATERIAL SAFETY DATA SHEET

PREPARATION DATE: 2/27/2008

SECTION 1 - PRODUCT & COMPANY INFORMATION

PRODUCT NAME: Qwik System Flush
PRODUCT NO.: QT1100
DESCRIPTION: AC & Refrigeration System Flush
USE: AC/Refrigeration line clean-up or retrofit
APPEARANCE: Clear liquid in aerosol can

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

INFORMATION TELEPHONE: 321-631-3550
EMERGENCY TELEPHONE: 800-424-9300

SECTION 2 - PRODUCT COMPOSITION INFORMATION

COMPONENT	% BY WEIGHT	OSHA PEL
Actives		
Flushing Agent*	100.0%	NE

NE= none established

* 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

EMERGENCY OVERVIEW: Non-Flammable aerosol. Liquid and gas under pressure. Aerosol spray can cause suffocation or frostbite. Irritating to eyes, skin, and respiratory system.

POTENTIAL HEALTH EFFECTS

EYE: May cause eye irritation.

SKIN: May cause mild skin irritation. May cause frostbite.

INGESTION: May be harmful if swallowed or aspirated into the lungs. May cause irritation of gastrointestinal tract, liver, and kidneys. Do not induce vomiting.

INHALATION: May be irritating to respiratory tract.

OTHER HEALTH EFFECTS: Increased susceptibility to any effects may be observed in persons with pre-existing disease of the central nervous system, cardiovascular system, skin or eyes.

PRIMARY ROUTE(S) OF ENTRY: Inhalation, skin contact, eye contact.

SECTION 4 - EFFECTS OF OVEREXPOSURE

Prolonged skin contact may cause drying and cracking. Ingestion or inhalation of high concentrations of vapor is harmful and may cause central nervous system depression, anesthesia, heart irregularities, unconsciousness, disorientation or death. Intentional misuse or deliberate inhalation may cause death without warning. Toxic effects on the liver or lung may occur at doses causing anesthesia. Consult a physician.

SECTION 5 - EMERGENCY & FIRST-AID PROCEDURES

SKIN: Immediately wash area with soap and water. Remove contaminated clothing and wash. If frostbite occurs, flush affected areas with lukewarm water. Do not use hot water. Call a physician.

EYES: Immediately move individual away from exposure and into fresh air. Flush eyes gently with water for at least 15 minutes while holding eyelids apart. Call a physician.

INGESTION: Not a probable route. In case of accidental ingestion, give large amounts of water provided person is conscious. Do not induce vomiting. Call a physician.

INHALATION: Immediately remove victim to fresh air. If breathing has stopped, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

SECTION 6 - PHYSICAL AND CHEMICAL DATA

BOILING POINT (760 mm Hg): 56-70 C
MELTING POINT: N/A
SPECIFIC GRAVITY (WATER = 1): 1.23 g/mL
PERCENT VOLATILES: 100%
APPEARANCE: Colorless liquid
ODOR: Mild

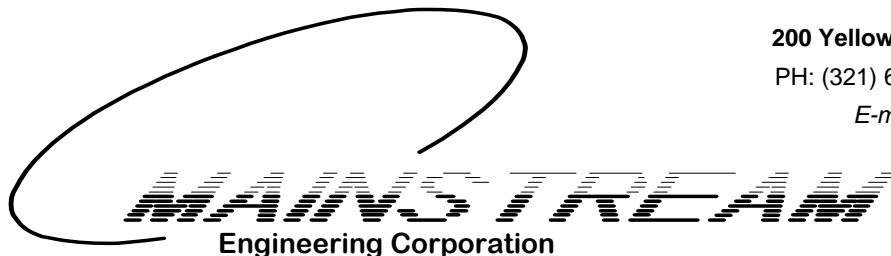
SECTION 7 - REACTIVITY DATA

STABILITY: Stable under ordinary conditions of use and storage.

HAZARDOUS DECOMPOSITION: Decomposition products are hazardous. Can be decomposed by temperatures (open flame or glowing metal surface) forming halogen acids, carbon monoxide, carbon dioxide and possibly carbonyl halides.

HAZARDOUS POLYMERIZATION: Will not occur.

INCOMPATIBILITY: Avoid contact with strong bases, oxidizing agents, heat, or flame. Avoid contact with reactive metals especially at high temperature. Avoid alkali, alkaline earth metals, and molten salts.



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CONDITIONS TO AVOID: Keep away from heat, sparks, and flames

SECTION 8 - FIRE AND EXPLOSION INFORMATION

FLASH POINT: 180 F, Tag Closed Cup

FLAMMABILITY OF AEROSOL: Non-Flammable

AUTOIGNITION TEMPERATURE: No Data

EXTINGUISHING MEDIA: Use what is appropriate for surrounding fire, preferably dry chemical, carbon dioxide, or foam.

SPECIAL FIRE FIGHTING PROCEDURES: Wear self-contained breathing apparatus in positive pressure mode with confined face piece.

UNUSUAL FIRE AND EXPLOSION HAZARDS: Never use welding or cutting torch on or near pressurized container. Emits toxic and corrosive fumes under fire conditions.

SECTION 9 - HANDLING, STORAGE, AND DISPOSAL

HANDLING: Avoid prolonged or repeated breathing of vapors. Avoid liquid contact with eyes and skin. Avoid heat, sparks, and flame. Use in a well ventilated area. Wash after handling.

STORAGE: Store in a cool, dry location. Do not store near heat, flame, or strong oxidants. Maintain adequate ventilation. Keep away from children.

SPILL AND LEAK PROCEDURES: Evacuate area. Ventilate area using forced ventilation, especially in lower enclosed places where heavy vapors might collect. Remove sources of ignition. Absorb spill with dry chemical absorbent (vermiculite), then place in chemical waste container. Do not flush to sewer or stream. May require excavation of contaminated soil.

DISPOSAL: Place in covered hazardous chemical waste containers outdoors, away from open flames and remove to a permitted waste disposal facility. Do not flush to sewer. Dispose of in accordance with all federal, state & local regulations.

SECTION 10 – EXPOSURE CONTROLS / PPE

PERSONAL PROTECTIVE EQUIPMENT:

- Respiratory protection: Use adequate ventilation and approved air respirators in case of emergency.
- Eye: Use chemical safety goggles.
- Clothing: Chemical resistant gloves, apron.

SECTION 11 - TOXICOLOGICAL INFORMATION

LD50, LC50, CARDIAC SENSITIZATION: No Data.

CANCER INFORMATION: No components listed as carcinogens by the International Agency for Research on Cancer, the National Toxicology Program, the Occupational Safety and Health Administration or any other organization.

REPRODUCTIVE EFFECTS: Animal data show slight fetotoxicity but only at exposure levels producing other toxic effects in the adult animal. Animal data also show sterility or other reproductive effects may occur.

ECOTOXICITY: No Data.

SECTION 12 - ADDITIONAL INFORMATION

DOT SHIPPING CLASS: Hazard Class: 2.2 (non-flammable)

EPA TSCA: No data.

SARA TITLE III: Acute: Yes; Chronic: No

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 [29 CFR 1910.1200 (d)(5)(ii)]. 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.