



VAPCO PRODUCTS

Safety Data Sheet Hydronic System Cleaner

SECTION 1: Identification

1.1 GHS Product identifier

Product name	Hydronic System Cleaner
Product number	HSC-1, HSC-5, HSC-55
Brand	Vapco

1.3 Recommended use of the chemical and restrictions on use

Hydronic system cleaner

1.4 Supplier's details

Name	Vapco Products
Address	401 Marshall Road Valley Park, MO 63088 United States
Telephone	(636) 923-2121
Fax	(636) 923-3002
email	info@VapcoProducts.com

1.5 Emergency phone number

(800) 255-3924

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200)

- Eye damage/irritation, Cat. 1
- Skin corrosion/irritation, Cat. 1

2.2 GHS label elements, including precautionary statements

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Pictogram



Signal word

Danger

Hazard statement(s)

H314

Causes severe skin burns and eye damage

H318

Causes serious eye damage

Precautionary statement(s)

P260

Do not breathe dust/fume/gas/mist/vapors/spray.

P280

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

P301+P330+P331

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303+P361+P353

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304+P340

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

P305+P351+P338

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

P310

Immediately call a POISON CENTER/doctor if exposed or concerned.

P321

Specific treatment (see First Aid on this label).

P363

Wash contaminated clothing before reuse.

P405

Store locked up.

P501

Dispose of contents/container to the specifications of local, regional, national, and international regulations.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. 2-Butoxyethanol

Concentration

0.1 - 1 % (weight)

EC no.

203-905-0

CAS no.

111-76-2

2. Potassium Hydroxide

Concentration

0.01 - 0.1 % (weight)

EC no.

215-181-3

CAS no.

1310-58-3

Index no.

019-002-00-8

3. Dodecylbenzenesulfonic acid, sodium salt

Concentration

0.01 - 0.1 % (weight)

CAS no.

68081-81-2

4. Sodium xylenesulfonate

Concentration

0.01 - 0.1 % (weight)

CAS no.

1300-72-7

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SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
If inhaled	First, take proper precautions to ensure your own safety before attempting rescue (e.g. wear appropriate respiratory protective equipment, use the buddy system), then remove the exposed person to fresh air. Keep at rest in a position comfortable for breathing. Get medical advice/attention.
In case of skin contact	Immediately drench affected area with water for at least 15 minutes. Remove contaminated clothing immediately. Obtain medical attention if irritation develops or persists.
In case of eye contact	Immediately rinse with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists.
If swallowed	Rinse mouth. Do NOT induce vomiting. Obtain medical attention.

4.2 Most important symptoms/effects, acute and delayed

Symptoms/Injuries: Harmful if inhaled. Causes serious eye and skin irritation.

Symptoms/Injuries After Skin Contact: Contact causes severe irritation with burns. Dermatitis may occur due to long-term irritation.

Symptoms/Injuries After Eye Contact: Contact causes severe irritation with redness and swelling of conjunctiva. Contact with gas/liquid escaping the container can cause permanent eye damage.

4.3 Indication of immediate medical attention and special treatment needed, if necessary

Provide general support measures and treat symptomatically. Chemical burns: flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call for immediate medical attention. Continue flushing during transportation to medical care. Keep victim warm. Keep victim under observation. Symptoms may be delayed. If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand. Note to physician: The absence of visible signs or symptoms of burns does not reliably exclude the presence of actual tissue damage.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Water spray, fog, carbon dioxide (CO₂), alcohol-resistant foam, dry chemical, or sand. Use appropriate media for surrounding fire.

5.2 Specific hazards arising from the chemical

Reactivity: Stable under recommended storage conditions. May be corrosive to metals. Increased risk of fire or explosion.

5.3 Special protective actions for fire-fighters

Precautionary Fire Measures: Exercise caution when fighting any chemical fire.

Firefighting Instructions: Use dry chemical, foam, or carbon dioxide (CO₂). Do not breathe fumes from fire or vapors from decomposition. Do NOT fight fire when fire reaches containers. Evacuate area. Fight fire remotely due to the risk of explosion. Shut off all sources of ignition. Use water spray or fog for cooling exposed containers.

Protection During Firefighting: Do not enter fire area without proper protective equipment, including respiratory

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protection. Wear NIOSH-approved Self-Contained Breathing Apparatus with a full face piece operated in a positive pressure demand mode with full body protective clothing when fighting fires.

Hazardous Combustion Products: Sodium oxide(s), silicon oxide(s).

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

General Measures: Do not get in eyes, on skin, or on clothing. Do not breathe vapors, spray, mist, gas. Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.

For Non-Emergency Personnel

Protective Equipment: Use appropriate personal protective equipment (PPE).

Emergency Procedures: Evacuate unnecessary personnel. Stop leak if safe to do so.

For Emergency Personnel

Protective Equipment: Equip cleanup crew with proper protection.

Emergency Procedure: Eliminate ignition sources first, then ventilate the area. Evacuate unnecessary personnel, isolate, and ventilate area. Upon arrival at the scene, a first responder is expected to recognize the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. Report spills as required by local and federal regulations.

6.3 Methods and materials for containment and cleaning up

For Containment: Ventilate the area. Contain any spills with dikes or absorbents to prevent further migration and entry into sewers or streams. As an immediate precautionary measure, isolate spill or leak area in all directions.

Methods for Cleaning Up: Clean up spills immediately and dispose of waste safely. Eliminate all ignition sources. Ventilate area. Stop the ignition source of the release, if safe to do so. Consider the use of water spray to disperse vapors. Isolate the area until gas has dispersed. Ventilate and gas test area before entering. Take up liquid spill into absorbent material. Transfer spilled material to a suitable container for disposal. Contact competent authorities after a spill.

Waste Disposal: Dispose of in accordance with local, regional, national, and international regulations. Containers may be hazardous when empty. Do not flame cut, braze, or weld. Product should be fully characterized prior to disposal (40 CFR 261).

Reference to other sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Additional Hazards When Processed: Do not pressurize, cut, or weld containers. Ruptured cylinders may rocket. Pressurized container: May burst if heated. Do not pierce or burn, even after use.

Precautions for Safe Handling: Do not handle until all safety precautions have been read and understood. Avoid contact with skin, eyes and clothing. Do not breathe gas, mist, spray, vapors. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not spray on open flame or other ignition source.

Hygiene Measures: Handle in accordance with good industrial hygiene and safety procedures.

Other Precautions: Keep out of reach of children. Follow label instructions. Vapors may collect in low lying areas.

7.2 Conditions for safe storage, including any incompatibilities

Technical Measures: Comply with applicable regulations. Proper grounding procedures to avoid static electricity should be followed.

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Storage Conditions: Store in a dry, cool place. Keep only in the original container in a cool, well-ventilated place away from ignition sources. Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Store locked up/in a secure area.

Incompatible Materials: Strong acids and alkalis, or oxidizing agents.

Specific end use(s)

Hydronic system cleaner

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. 2-Butoxyethanol (CAS: 111-76-2 EC: 203-905-0)

PEL-C (Inhalation): 20 ppm, 97 mg/m³

TLV® (Inhalation): 20 ppm; USA (ACGIH)

TWA (Inhalation): 20 ppm; USA (ACGIH)

PEL-C (Inhalation): 20 ppm (Cal/OSHA)

REL-C (Inhalation): 5 ppm (NIOSH)

TWA (Inhalation): 5 ppm, 24 mg/m³ (NIOSH)

PEL-C (Inhalation): 50 ppm (US/OSHA)

PEL-C (Inhalation): 240 mg/3 (US/OSHA)

TWA (Inhalation): 50 ppm, 240 mg/m³ (US/OSHA)

2. Potassium Hydroxide (CAS: 1310-58-3 EC: 215-181-3)

PEL-C (Inhalation): 2 mg/m³; USA (ACGIH)

PEL-C (Inhalation): 2 mg/m³; USA (Cal/OSHA)

PEL-C (Inhalation): 2 mg/m³; USA (NIOSH)

8.2 Appropriate engineering controls

Emergency eye wash fountains and safety showers should be available in the immediate vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Use explosion-proof equipment. Proper grounding procedures to avoid static electricity should be followed. Use only outdoors or in well-ventilated area. Ensure all local, regional, national, and international regulations are being observed. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms



Eye/face protection

Chemical safety goggles. Insufficient ventilation: wear respiratory protection. Respiratory protection of the dependent type.

Skin protection

Wear protective gloves and clothing.

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Body protection

Wear suitable protective clothing. Wear protective gloves. Chemical resistant materials and fabrics. Wear fire/flammable resistant/retardant clothing.

Respiratory protection

Use a NIOSH-approved Self-Containing Breathing Apparatus whenever exposure may exceed established Occupational Exposure Limits.

SECTION 9: Physical and chemical properties and safety characteristics

Basic physical and chemical properties

Physical state	Liquid
Appearance	Clear liquid
Color	Orange
Odor	Citrus
Odor threshold	N/D
Melting point/freezing point	32°F (0°C) estimated
Boiling point or initial boiling point and boiling range	212°F (100°C) estimated
Flammability	N/D
Lower and upper explosion limit/flammability limit	N/D
Flash point	None through boiling
Auto-ignition temperature	N/D
Decomposition temperature	N/D
pH	11.5-12.5
Kinematic viscosity	N/D
Solubility	Completely soluble in water
Partition coefficient n-octanol/water (log value)	N/D
Vapor pressure	17.5 mmHg at 20 °C (Water)
Evaporation rate	Same as water
Density and/or relative density	1.03-1.05
Relative vapor density	> 1 (Air=1)

Particle characteristics

N/D

Supplemental information regarding physical hazard classes

N/D

Further safety characteristics (supplemental)

N/D

SECTION 10: Stability and reactivity

10.1 Reactivity

Reacts strongly with strong acids. This product may react with oxidizing agents.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

None under normal use conditions.

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10.4 Conditions to avoid

Direct sunlight, extremely high or low temperatures, heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.

10.5 Incompatible materials

Strong acids and alkalis, or oxidizing agents.

10.6 Hazardous decomposition products

Carbon oxides, potassium oxides, and fumes.

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity

The ATE (gas inhalation) of the mixture is: 45000 ppmV

The ATE (oral) of the mixture is: 1666.67 mg/kg bw

2-Butoxyethanol

LD50 Oral - Rat - 880 mg/kg

LD50 Skin - Rabbit - 1,060 mg/kg

LD50 Intraperitoneal - Rat - 220 mg/kg

LD50 Intravenous - Rat - 307 mg/kg

LD50 Oral - Rat - 470 mg/kg

LC50 Inhalation - Rat - 450 ppm

LC50 - *Oncorhynchus mykiss* (rainbow trout) - 1,474 mg/l - 96 h

EC50 - *Daphnia magna* (water flea) - 1,550 mg/l - 48 h

EC50 - *Pseudokirchneriella subcapitata* (green algae) - 1,840 mg/l - 72 h

LC50 - *Daphnia magna* (water flea) - 1,550 mg/l - 48 h

LC50 - *Pseudokirchneriella subcapitata* (green algae) - 911 mg/l - 72 h

Dodecylbenzene sodium sulfonate

LD50 Oral - Rat - 1090 mg/kg

Potassium Hydroxide

LD50 Oral - Rat - 333 mg/kg

LC50 - *Gambusia affinis* (mosquito fish) - 80 mg/l - 96 h

Sodium xylenesulfonate

LD50 Oral - Rat - male and female - $\geq 7,200$ mg/kg

LD50 Oral - Rabbit - male and female - $> 2,000$ mg/kg

Skin corrosion/irritation

Causes skin irritation. Causes severe burns, prolonged contact will destroy tissue.

Serious eye damage/irritation

Irritating to eyes. Causes severe burns, irritation, redness, tearing, and pain.

Respiratory or skin sensitization

May cause irritation (possible severe), chemical burns, upper respiratory damage, and pulmonary edema.

Germ cell mutagenicity

Not a germ cell mutagen.

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Carcinogenicity

No competent of this product is present at levels greater than or equal to 0.1% that can be identified as a probable, possible or confirmed human carcinogen.

Reproductive toxicity

This product does not contain any known or suspected reproductive hazards.

STOT-single exposure

None known.

STOT-repeated exposure

None known.

Aspiration hazard

No information available.

Additional information

Intentional misuse by deliberately concentrating and inhaling contents may be harmful or fatal.

Medical Conditions Aggravated: Asthma, bronchitis, emphysema and other lung diseases and chronic nose, sinus or throat conditions. Skin irritation may be aggravated in individuals with existing skin disorders.

Symptoms/Injuries: Harmful if inhaled. Causes serious eye and skin irritation.

Symptoms/Injuries After Skin Contact: Contact causes severe irritation with burns. Dermatitis may occur due to long-term irritation.

Symptoms/Injuries After Eye Contact: Contact causes severe irritation with redness and swelling of conjunctiva. Contact with gas/liquid escaping the container can cause permanent eye damage.

SECTION 12: Ecological information

Toxicity

2-Butoxyethanol

LD50 Oral - Rat - 880 mg/kg

LD50 Skin - Rabbit - 1,060 mg/kg

LD50 Intraperitoneal - Rat - 220 mg/kg

LD50 Intravenous - Rat - 307 mg/kg

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EC50 - Pseudokirchneriella subcapitata (green algae) - 1,840 mg/l - 72 h

LC50 - Daphnia magna (water flea) - 1,550 mg/l - 48 h

LC50 - Pseudokirchneriella subcapitata (green algae) - 911 mg/l - 72 h

Dodecylbenzene sodium sulfonate

LD50 Oral - Rat - 1090 mg/kg

Potassium Hydroxide

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Sodium xylenesulfonate

LD50 Oral - Rat - male and female - \geq 7,200 mg/kg

LD50 Oral - Rabbit - male and female - $>$ 2,000 mg/kg

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Persistence and degradability

No information is available.

Bioaccumulative potential

2-butoxyethanol; CAS 111-76-2: Log Pow = 0.81

Potassium hydroxide; CAS 1310-58-3: Log Pow = 0.83

Mobility in soil

This product is mobile in soil.

SECTION 13: Disposal considerations

Disposal methods

Product disposal

This material, as supplied, is a hazardous waste according to federal regulations (U.S. EPA 40 CFR 261). Dispose of contents/container in accordance with local, regional, national, and international regulations. Do not pierce or burn, even after use.

Waste treatment

This material, as supplied, is a hazardous waste according to federal regulations (U.S. EPA 40 CFR 261). Dispose of contents/container in accordance with local, regional, national, and international regulations.

Other disposal recommendations

Container may remain hazardous when empty. Continue to observe all precautions. Do not puncture or incinerate container. Product should be fully characterized prior to disposal.

SECTION 14: Transport information

DOT (US)

UN Number: UN3266

Class: 8

Packing Group: I

Proper Shipping Name: Corrosive liquid, basic, inorganic, n.o.s.

Reportable quantity (RQ): N/A

Marine pollutant: N/A

Poison inhalation hazard: N/A

IMDG

UN Number: UN3266

Class: 8

Packing Group: I

EMS Number: N/A

Proper Shipping Name: Corrosive liquid, basic, inorganic, n.o.s.

IATA

UN Number: UN3266

Class: 8

Packing Group: I

Proper Shipping Name: Corrosive liquid, basic, inorganic, n.o.s.

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SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

California Prop. 65 Components

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Massachusetts Right To Know Components

Ethylene glycol monobutyl ether

CAS: 111-76-2

Potassium hydroxide

CAS: 1310-58-3

New Jersey Right To Know Components

Ethylene glycol monobutyl ether

CAS: 111-76-2

Potassium hydroxide

CAS: 1310-58-3

Sodium xylenesulphonate

CAS: 1300-72-7

Pennsylvania Right To Know Components

Ethylene glycol monobutyl ether

CAS: 111-76-2

Potassium hydroxide

CAS: 1310-58-3

Sodium xylenesulphonate

CAS: 1300-72-7

SARA 302 Components

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Hazards

Fire Hazard, Acute Health Hazard, Chronic Health Hazard

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:

Ethylene glycol monobutyl ether

CAS: 111-76-2

Toxic Substances Control Act (TSCA) Inventory

All chemicals are listed or exempt.

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HMIS Rating

Hydronic System Cleaner	
HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	1
PERSONAL PROTECTION	B

NFPA Rating



SECTION 16: Other information

N/A = Not applicable; N/D = Not determined

16.1 Further information/disclaimer

To the best of our knowledge, information contained herein is accurate. However there is no assumption of liability for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazard which exists. The information contained in this SDS was obtained from current and reliable sources; however, the data is provided without warranty, expressed or implied, regarding its correctness or accuracy. Since the conditions of handling, storage and disposal of this product are beyond the control of the manufacturer, the manufacturer will not be responsible for loss, injury, or expense arising out of the products improper use. No warranty, expressed or inferred, regarding the product described in this SDS shall be created or inferred by any statement in this SDS. Various government agencies may have specific regulations regarding the transportation, handling, storage, use, or disposal of this product which may not be covered by this SDS. The user is responsible for full compliance.

16.2 Preparation information

Prepared by: Jessica Wilson

Date prepared: 11/1/2024

