


SECTION 1 - PRODUCT AND COMPANY IDENTIFICATION

- 1.1 Product identifier**
Product Name: ScaleBreak-Gel
Product Codes(s): ScaleBreak-Gel
Synonyms: Aqueous acidic solution
REACH Registration Number: No data available
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
General Use: Cooling tower fill descaler
Uses advised against: No uses advised against
- 1.3 Details of the supplier and of the safety data sheet**
Manufacturer/Distributor
 Goodway Technologies Corp.
 420 West Avenue
 Stamford, CT 06902 USA
 +1-203-359-4708; Toll free: +1-800-243-7932
- 1.4 Emergency telephone number**
 Chemtrec (24 hours): +1-800-424-9300; International: +1-703-527-3887

SECTION 2 - HAZARDS IDENTIFICATION

- 2.1 Classification of substance or mixture**
Product definition: Mixture
Classification (Regulation (EC) No 1272/2008)
 Skin Corrosive - Category 1C [H314]
- 2.2 Label Elements**
Labeling (Regulation (EC) No 1272/2008)
- Hazard Symbols** 
- Signal Word:** Danger
- Hazard Statement(s):** H314 - Causes severe skin burns and eye damage
- Precautionary Statements:**
- [Prevention]** P260 - Do not breathe fumes or mists.
 P264 - Wash hands and other skin areas exposed to material thoroughly after handling.
 P280 - Wear protective gloves, protective clothing, eye protection and face protection.
- [Response]** P301 + P330 + P331 - IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
 P303 + P361 + P353 - IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water or shower.
 P363 - Wash contaminated clothing before reuse.
 P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P310 - Immediately call a POISON CENTER or doctor.
 P321 - Specific treatment: Seek IMMEDIATE medical advice. Refer to product label and Section 4.
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- [Storage]** P405 - Store locked up.
- [Disposal]** P501 - Dispose of contents in accordance with national/local regulations.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

- 3.1 Substances**
 Not applicable
- 3.2 Mixtures**

Chemical characterization (preparation)

% by Weight	Ingredient	CAS Number	EC Number	Index Number	EC Classification
<60	Glycerol	56-81-5	200-289-5	-----	-----
<15	Orthophosphoric Acid	7664-38-2	231-633-2	015-011-00-6	Xi, R36/36
<15	Citric Acid	77-92-9	201-069-1	-----	-----
<5	Aqueous Hydrogen Chloride	7647-01-0	231-595-7	017-002-01-X	Xi, R36/37/38
<5	Corrosion Inhibitors & Surfactants	Proprietary	-----	-----	-----

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to the health or the environment and hence require reporting in this section.

SECTION 4 - FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation: If product vapor or mist causes respiratory irritation or distress, move the exposed person to fresh air immediately. If breathing is difficult or irregular, administer oxygen; if respiratory arrest occurs, start artificial respiration by trained personnel. Loosen tight fitting clothing such as a collar, tie, belt or waistband. Seek medical attention if symptoms persist or if you feel unwell.

Eyes: Immediately flush eyes with large amounts of water for 15 minutes, occasionally lifting the upper and lower lids. Remove contact lenses, if present and easy to do, after the first 2 minutes and continue rinsing. Seek immediate medical attention, preferably from an ophthalmologist.

Skin: Flush skin with large amounts of water while removing contaminated clothing and continue rinsing for at least 15 minutes. Wash contaminated clothing and shoes thoroughly before reuse. If skin irritation persists, if rash occurs or if you feel unwell, seek medical attention.

Ingestion: Rinse mouth with water if victim is conscious. Remove dentures, if any. Give 1 - 2 cupfuls of water or milk to drink if victim is conscious, alert and able to swallow. DO NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Obtain medical attention immediately. To prevent aspiration of swallowed product, lay victim on side with the head lower than the waist.

4.2 Most important symptoms and effects, both acute and delayed

Potential health symptoms and effects

Eyes: Causes severe eye irritation, burns and possible eye damage. Symptoms may include redness, swelling, pain and tearing. May cause chemical conjunctivitis. May cause permanent eye damage. The degree of injury depends on the concentration and duration of contact.

Skin: Causes severe skin irritation and burns. Symptoms include redness, itching, swelling, pain and possible blisters. May cause skin sensitization and allergic contact dermatitis in susceptible individuals. The degree of injury depends on the concentration and duration of contact.

Inhalation: Mist or vapors may cause severe irritation of the nose, throat and respiratory tract. Symptoms may include sore throat, runny nose, cough and shortness of breath.

Ingestion: May be harmful if swallowed. Causes severe irritation of and burns to the gastrointestinal tract with abdominal pain, nausea, vomiting and diarrhea. Causes burns to the lips, mouth, throat and digestive tract.

Chronic: Persons with pre-existing disorders of the skin or impaired respiratory function may be more susceptible to the effects of this substance. Prolonged and repeated skin contact can result in allergic contact dermatitis. Hydrochloric Acid is a confirmed animal carcinogen. Refer to Section 11.2.

4.3 Indication of any immediate medical attention and special treatment needed

Advice to Doctor and Hospital Personnel: Treat symptomatically and supportively.

SECTION 5 - FIRE FIGHTING MEASURES

5.1 Extinguishable media

Suitable methods of extinction: Use extinguishing media appropriate for surrounding fire.

Unsuitable methods of extinction: None known

5.2 Special hazards arising from the substance or mixture

Closed containers may explode due to the buildup of pressure when exposed to extreme heat. During emergency conditions overexposure to decomposition products may cause a health hazard. Symptoms may not be immediately apparent or may be delayed. Obtain medical attention.

Explosion hazards: Not considered to be an explosion hazard.

5.3 Advice for firefighters

Full protective equipment including self-contained breathing apparatus should be used. Water may be used to cool closed containers to prevent pressure buildup and possible autoignition or explosion when exposed to extreme heat. Fire fighters should try to contain water contaminated by this material from being discharged to any waterway, sewer or drain to prevent environmental contamination.

SECTION 6 - ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Ventilate the area. Evacuate non-essential personnel. Wear appropriate protective clothing designated in Section 8.

6.2 Environmental precautions

Avoid dispersal of spilled material or runoff and prevent contact with soil and entry into drains, sewers or waterways.

6.3 Methods and materials for containment and cleaning up

Cover drains and contain spill. Neutralize spilled product using a solution of soda ash or lime in water (approximately 10 lbs alkali to 5 gallons of water). Cautiously add mixture to the spill, taking care to avoid splashing and splattering. When the pH of the spill reaches 6 - 8, cover with a large quantity of inert absorbent. Do not use combustible material such as saw dust. Shovel or sweep up material and place in an approved container for disposal. Observe possible restrictions (Sections 7.2 and 10.5). Do not allow material or runoff from contaminated areas to enter floor drains or storm drains and ditches that lead to waterways. Dispose of undiluted waste via a licensed waste disposal contractor.

6.4 Reference to other sections

See Section 13 for additional waste treatment information.

SECTION 7 - HANDLING AND STORAGE

7.1 Precautions for safe handling

Wear all appropriate personal protective equipment specified in Section 8. Do not get in eyes or on skin or clothing. If normal use of material presents a respiratory hazard, use only adequate ventilation or wear appropriate respiratory protection.

Advice on protection against fire and explosion

Not considered to be a fire or explosion hazard

7.2 Conditions for safe storage, including any incompatibilities

Store in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10.5), food and drink. Transfer only to approved

containers having correct labeling. Keep container tightly closed. Protect container against physical damage. Containers that have been opened must be carefully resealed and kept upright to prevent spillage. Containers of this material may be hazardous when empty as they contain product residues. Use appropriate containment to avoid environmental contamination. Ventilate closed areas. Do not take internally. Keep out of reach of children.

7.3 Specific end uses

Apart from the uses mentioned in Section 1.2, no other specific uses are stipulated.

SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

CAS Number	Ingredient	OSHA PEL - TWA	ACGIH TLV	NIOSH
56-81-5	Glycerol	15 mg/m ³ (total); 5 mg/m ³ (respirable fraction)	10 mg/m ³ TWA	10 mg/m ³
7664-38-2	Orthophosphoric Acid	1 mg/m ³	1 mg/m ³ TWA; 3 mg/m ³ STEL	1 mg/m ³ TWA; 1,000 mg/m ³ IDHL
77-92-9	Citric Acid	15 mg/m ³	15 mg/m ³ TWA	-----
7647-01-0	Hydrogen Chloride, Aqueous	5 ppm; 7 mg/m ³ , ceiling; 50 ppm IDHL	2 ppm; 7 mg/m ³ , ceiling	5 ppm; 7 mg/m ³ TLV ceiling

8.2 Exposure controls

Engineering measures: Technical measures and appropriate working operations should be given priority over the use of personal protective equipment. Use adequate ventilation. Local exhaust is preferable. Refer to Section 7.1 for additional data.

Individual protection measures: Wear protective clothing to prevent repeated or prolonged contact with product. Protective clothing needs to be selected specifically for the workplace, depending on concentrations and quantities of hazardous substances handled. The chemical resistance of the protective equipment should be enquired at the representative supplier.

Hygiene measures: Facilities storing or using this material should be equipped with an eyewash station and safety shower. Change contaminated clothing. Preventive skin protection is recommended. Wash hands thoroughly after use, before eating, drinking or using the lavatory.

Eye/face protection: Wear safety glasses with non-perforated side shields. Refer to 29 CFR 1910.133, ANSI Z87.4 or Standard EN166.

Hand protection: Wear gloves recommended by glove supplier for protection against materials in Section 3. Gloves should be impermeable to chemicals and oil. Breakthrough time of gloves must be greater than the intended use period.

Other protective equipment: Protective clothing. Protective boots, if the situation requires.

Respiratory protection: None needed with normal handling. Wear an approved filter type dust respirator if needed when handling this product. Where risk assessment shows air purifying respirators are appropriate use a full-faced respirator with multi-purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respiratory and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Follow OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Blue liquid
Odor	Mild
Odor Threshold	No data available
Molecular Weight	Not applicable
Chemical Formula	Not applicable
pH	<1
Freezing/Melting Point, Range	No data available
Initial Boiling Point	Not applicable
Evaporation Rate	Not applicable
Flammability (solid, gas)	Non-flammable
Flash Point	Not applicable
Autoignition Temperature	Not applicable
Decomposition Temperature	Not determined
Lower Explosive Limit (LEL)	Not applicable
Upper Explosive Limit (UEL)	Not applicable
Vapor Pressure	Not determined
Vapor Density	Not determined
Specific Gravity	1.209
Viscosity	No data available
Solubility in Water	Complete
Partition Coefficient: n-octanol/water	No data available
Volatiles by Volume @ 70 °F	>95%

9.2 Other data

No data available

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

No special reactivity has been reported.

10.2 Chemical stability

This product is stable under recommended storage conditions, handling and use.

10.3 Possibility of hazardous reactions

Under normal conditions of storage and use, hazardous reactions will not occur.
Hazardous polymerization does not occur.

10.4 Conditions to avoid

Contact with incompatible materials, temperature extremes. Keep form freezing.

10.5 Incompatible materials

Bases, organic materials, strong oxidizers, combustible and flammable materials, alkalis

10.6 Hazardous decomposition products

Thermal decomposition products include carbon oxides hydrogen chloride, chlorine gas, hydrogen gas, phosphorus oxides, phosphine, other undefined compounds and gases.

SECTION 11 - TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute Oral Toxicity

No data available

Acute inhalation toxicity

No data available

Acute dermal toxicity

No data available

Skin irritation/corrosion

Causes skin irritation

Eye irritation/corrosion

Causes severe eye irritation and possible burns

Sensitization

No data available

Genotoxicity in vitro/in vivo

No data available

Mutagenicity

No data available

Specific organ toxicity - single exposure

No data available

Specific organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Further information

Chronic Effects: Not listed as a carcinogen by NTP or OSHA. Hydrochloric Acid (CAS #647-01-0): ACGIH, A3 Carcinogen - Confirmed animal carcinogen with unknown relevance to humans; IARC, Group 3 Carcinogen: Not classifiable as to its carcinogenicity to humans.

No data is available regarding the mutagenicity or teratogenicity of this product, nor is there any available data that indicates it causes adverse developmental or fertility effects.

Handle in accordance with good industrial hygiene and safety practice.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

Large discharges of this product to the environment may decrease the pH of aquatic systems to a value <2, which may be fatal to aquatic life and soil micro-organisms. Phosphates may persist indefinitely or incorporate into biological systems.

12.2 Persistence and degradability

The organic components in this product are readily biodegradable. The inorganic substances are not biodegradable. Methods for the determination of biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulation potential

Product is not expected to bioaccumulate.

12.4 Mobility in soil

Expected to have high mobility in soil. Mineral acids are neutralized to some degree by natural water hardness minerals; however, significant amounts of acids may remain for transport down toward the groundwater table.

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available.

12.6 Other adverse effects

Additional ecological information

Do not allow material to enter into surface waters, wastewater or soil.

An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13 - DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Methods of disposal: The generation of waste should be avoided or minimized whenever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and undiluted product in accordance with

federal, state and local regulations. Dispose of diluted product through normal sump systems after the pH is adjusted to a range of 6 - 8 with soda ash or lime. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Avoid dispersal of spilled material and contact with soil and waterways.

Hazardous waste: The classification of this product may meet the criteria for a hazardous waste.

SECTION 14 - TRANSPORT INFORMATION

Note: Transportation information provided is for reference only. Customer is urged to consult 49 CFR 100 - 177, IMDG, IATA, EC, United Nations TDG and WHMIS (Canada) TDG information manuals for detailed regulations and exceptions covering specific container sizes, packaging materials and methods of shipping.

US DOT (Domestic Ground Transportation)

Proper Shipping Name: Corrosive liquid, n.o.s. (Citric Acid, Phosphoric Acid)
Hazard Class: 8
UN/NA: UN1760
Packing Group: III
NAERG: Guide #154
Packaging Authorization: Non-Bulk: 49 CFR 173.203; Bulk: 173.241
Packaging Exceptions: 49 CFR 173.154



IMO/IMDG (Water Transportation)

Proper Shipping Name: Corrosive liquid, n.o.s. (Citric Acid, Phosphoric Acid)
Hazard Class: 8
UN/NA: UN1760
Packing Group: III
Marine Pollutant: No
EMS Number: F-A, S-B

ICAO/IATA (Air Transportation)

Proper Shipping Name: Corrosive liquid, n.o.s. (Citric Acid, Phosphoric Acid)
Hazard Class: 8
UN/NA: UN1760
Packing Group: III
Quantity Limitations: 49 CFR 175.27 and 175.75 - Cargo Aircraft Only: 60 L; Passenger Aircraft: 5 L

RID/ADR (Rail Transportation)

Proper Shipping Name: Corrosive liquid, n.o.s. (Citric Acid, Phosphoric Acid)
Hazard Class: 8
UN/NA: UN1760
Packing Group: III

SECTION 15 - REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for substance or mixture

U. S. Federal Regulations

OSHA Hazard Communication Standard: This material is classified as hazardous in accordance with OSHA 29 CFR 1910.1200.

OSHA Process Safety Management Standard: Hydrochloric Acid (CAS #7647-01-0) is regulated under OSHA PSM Standard 29 CFR 1910.119.

EPA Risk Management Planning Standard: Hydrochloric Acid (CAS #7647-01-0) is regulated under EPA RMP Standard (RMP) 40 CFR Part 68.

EPA Federal Insecticide, Fungicide and Rodenticide Act: This product is not a registered Pesticide under the FIFRA, 40 CFR Part 150.

TSCA Status: All components of this product are listed on the Toxic Substance Control Act (TSCA) Inventory. This product is subject to TSCA 12(b) Export Notification.

Superfund Amendments and Reauthorization Act (SARA)

SARA 313 Information: Hydrochloric Acid (CAS #7647-01-0) is subject to reporting requirements of Section 313 of the Emergency Planning and Community Right-to Know Act of 1986.

SARA Section 311/312 Hazard Categories: Acute Health Hazard, Chronic Health Hazard

SARA 302/304 Extremely Hazardous Substance: Hydrochloric Acid (CAS #7647-01-0) is subject to reporting requirements of these sections of Title III of SARA.

SARA 302/304 Emergency Planning & Notification: None of the chemicals in this product are subject to reporting requirements of these sections of Title III of SARA.

Comprehensive Response Compensation and Liability Act (CERCLA): This product contains the following CERCLA reportable substances:

Orthophosphoric Acid (CAS #7664-38-2), RQ - 2,267.96 kg (5,000 lbs)

Hydrochloric Acid (CAS #7647-01-0), RQ - 2,267.96 kg (5,000 lbs)

Clean Air Act (CAA)

Hydrochloric Acid is listed as a Hazardous Air Pollutant (HAP) designated in CAA Section 112 (b).

This product does not contain any Class 1 Ozone depletors.

This product does not contain any Class 2 Ozone depletors.

Clean Water Act (CWA)

Orthophosphoric Acid and Hydrochloric Acid are listed as Hazardous Substances under the CWA.

None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

U.S. State Regulations

California Prop 65, Safe Drinking Water and Toxic Enforcement Act of 1986:

This product contains trace amounts of chemicals known to the State of California to cause cancer or other reproductive harm.

Other U.S. State Inventories:

Glycerol (CAS #56-81-5) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: MA, MN, NJ, PA, WA.

Orthophosphoric Acid (CAS #7664-38-2) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: CA, DE, ID, MA, MN, NJ, NY, PA, WA, WI.

Hydrochloric Acid (CAS #7647-01-0) is listed on the following State Hazardous Substance Inventories, Right-to-Know lists and/or Air Quality/Air Pollutants lists: CA, DE, ID, IL, ME, MA, MN, NC, NJ, NY, PA, WA, WI.

Canada

WHMIS Hazard Symbol and Classification: None allocated

Canadian Controlled Products Regulations (CPR): This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations, and the SDS contains all the information required by the Controlled Products Regulations.

Canadian Ingredient Disclosure List (IDL): Citric Acid, Orthophosphoric Acid and Hydrochloric Acid are listed on the IDL.

Canadian National Pollutant Release Inventory (NPRI): Hydrochloric Acid is listed on the NPRI.

European Economic Community

Labeling (67/548/EEC or 1999/45/EC)



C - Corrosive

Risk Phrases: R34 - Causes burns.

Safety Phrases: S1/2 - Keep locked up and out of the reach of children.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S36/37/39 - Wear suitable protective clothing, gloves and eye protection.

S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label and SDS whenever possible).

WGK, Germany (Water danger/protection): 1

Global Chemical Inventory Lists

Country	Inventory Name	Inventory Listing*
Canada	Domestic Substance List (DSL).	Yes
Canada	Non-Domestic Substance List (NDSL)	No
Europe	Inventory of New and Existing Chemicals (EINECS)	Yes
United States	Toxic Substance Control Act (TSCA)	Yes
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	Yes
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Japan	Inventory of Existing and New Chemical Substances (ENCS)	No
Korea	Existing Chemicals List (ECL)	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes

*"Yes" indicates that all components of this product are in compliance with the inventory requirements administered by the governing country.

"No" indicates that one or more components of this product are not on the inventory and are not exempt from listing.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out.

SECTION 16 - OTHER INFORMATION

Hazardous Material Information System (HMIS)

Health	2
Flammability	0
Physical Hazard	0
Personal Protection	C

HMIS & NFPA Hazard Rating Legend

* = Chronic Health Hazard 2 = MODERATE
 0 = INSIGNIFICANT 3 = HIGH
 1 = SLIGHT 4 = EXTREME



Splash Goggles



Gloves



Protective Apron

National Fire Protection Association (NFPA)

Flammability



Health

Instability

Special

Full Text of Risk (R) – Phrases Referenced in Section 3.

Although the information and recommendations set forth herein (hereinafter "information") are presented in good faith and believed to be correct as of the date hereof, Goodway Technologies. makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving same will make their own determination as to its suitability for their purposes prior to use. In no event will Goodway Technologies be responsible for damages of any nature whatsoever resulting from the use or reliance upon information. Representations or warranties, either express or implied or merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to information or the product to which information refers.

Version 1

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