

1. IDENTIFICATION

Product Identifier**Product Name** ScaleBreak-Gel**Other means of identification****SDS #** GOOD-004**Recommended use of the chemical and restrictions on use****Recommended Use** Descaler.**Details of the supplier of the safety data sheet****Supplier Address**Goodway Technologies Corp
420 West Ave
Stamford, CT 06902
www.goodway.com**Emergency Telephone Number****Company Phone Number** 1-800-333-7467
Emergency Telephone (24 hr) Chemtrec 1-800-424-9300 (North America)

2. HAZARDS IDENTIFICATION

Appearance Blue liquid**Physical state** Liquid**Odor** Mild**Classification**

Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 1
Specific target organ toxicity (single exposure)	Category 3

Signal Word

Danger

Hazard statementsCauses skin irritation
Causes serious eye damage
May cause respiratory irritation**Precautionary Statements - Prevention**Wear protective gloves/protective clothing/eye protection/face protection
Wash face, hands and any exposed skin thoroughly after handling
Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area

Precautionary Statements - Response

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: Wash with plenty of water and soap
Take off contaminated clothing and wash before reuse
If skin irritation occurs: Get medical advice/attention
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
Call a poison center or doctor/physician if you feel unwell

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed
Store locked up

Precautionary Statements - Disposal

Disposal should be in accordance with applicable regional, national, and local laws and regulations

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Weight-%
Glycerol	56-81-5	<60
Citric Acid	77-92-9	<15
Phosphate Ester Descaling Compound	Proprietary	<15
Organic Descaling Compound	Proprietary	<3
Descaling Accelerator	Proprietary	<3
Corrosion Inhibitors & Surfactants	Proprietary	<3

If Chemical Name/CAS No is "proprietary" and/or Weight-% is listed as a range, the specific chemical identity and/or percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First Aid Measures

General Advice	Provide this SDS to medical personnel for treatment.
Eye Contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain immediate medical attention, preferably from an ophthalmologist.
Skin Contact	IF ON SKIN: Wash with plenty of water and soap. Remove contaminated clothing, wash thoroughly before reuse. If irritation occurs: Get medical advice/attention.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. If breathing has stopped, give artificial respiration. Loosen tight clothing such as collar, tie, belt, or waistband. If symptoms persist, seek medical attention.
Ingestion	Rinse mouth thoroughly with water. Remove dentures, if any. Do not induce vomiting without medical advice. If spontaneous vomiting occurs, keep head below hips to prevent aspiration and monitor breathing. Never give anything by mouth to a person who is unconscious or convulsing. Do not leave victim unattended. Seek immediate medical attention/advice.

Most important symptoms and effects

Symptoms

EYES: Causes severe eye irritation and serious eye damage. Symptoms may include inflammation, pain, blurred vision, tearing and burns. May cause chemical conjunctivitis. May cause vision impairment and permanent eye damage.

SKIN: Causes skin irritation. Symptoms may include localized redness, itching and discomfort. Prolonged and repeated contact with unprotected skin may cause drying and cracking of the skin and dermatitis.

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

INGESTION: Causes irritation of the gastrointestinal tract with abdominal pain, nausea, vomiting and diarrhea. May be harmful if swallowed.

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 defatting of the skin and dermatitis.

Indication of any immediate medical attention and special treatment needed**Notes to Physician**

Treat symptomatically & supportively. Treatment of exposure should be directed at the control of symptoms and the clinical condition.

5. FIRE-FIGHTING MEASURES**Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media None known.

Specific Hazards Arising from the Chemical

Closed containers may explode due to buildup of pressure when exposed to extreme heat.

Hazardous Combustion Products: Smoke, fumes or vapors, and oxides of carbon.

Explosion Data

Sensitivity to Mechanical Impact Not expected.

Sensitivity to Static Discharge Not expected.

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Water spray may be used for cooling containers to prevent possible pressure build-up and autoignition or explosion when exposed to extreme heat. Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****Personal Precautions**

Evacuate unnecessary personnel. Wear protective clothing as described in Section 8 of this safety data sheet. Ventilate affected area. Remove all sources of ignition. No smoking in spill area. Product may cause a slip hazard.

For Emergency Responders

Follow all fire-fighting procedures in Section 5. Use personal protection recommended in Section 8.

Environmental precautions**Environmental precautions**

See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up**Methods for Containment**

Approach release from upwind. Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in

container for disposal according to local / national regulations (see Section 13). Prevent from entering drains, sewers, streams or other bodies of water. If runoff occurs, notify authorities as required.

Methods for Clean-Up

Collect with absorbent, non-combustible material in to suitable containers. Clean surface thoroughly to remove residual contamination. Should not be released into the environment. For waste disposal, see section 13 of the SDS.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on Safe Handling

Handle in accordance with good industrial hygiene and safety practice. Use personal protection recommended in Section 8. Avoid contact with skin, eyes or clothing. Avoid breathing vapors or mists. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Wash face, hands and any exposed skin thoroughly after handling. Wash contaminated clothing before reuse.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed and store in a cool, dry and well-ventilated place. Keep away from food, drink and animal feeding stuffs. Do not transfer contents to bottles or other unlabeled containers. Protect container from physical damage. Keep containers closed when not in use and upright to prevent leakage. Empty containers retain product residues. Follow SDS precautions in handling empty containers. Use appropriate containment to avoid environmental contamination. Do NOT take internally. Keep out of the reach of children.

Incompatible Materials

Strong oxidizing agents. Strong acids. Strong Alkalis or Bases

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Glycerol 56-81-5	-	TWA: 15 mg/m ³ mist, total particulate TWA: 5 mg/m ³ mist, respirable fraction (vacated) TWA: 10 mg/m ³ mist, total particulate (vacated) TWA: 5 mg/m ³ mist, respirable fraction	-
Citric Acid 77-92-9	-	15 mg / m3 (Total)	-
Phosphate Ester Descaling Compound	STEL: 3 mg/m ³ TWA: 1 mg/m ³	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³ (vacated) STEL: 3 mg/m ³	IDLH: 1000 mg/m ³ TWA: 1 mg/m ³ STEL: 3 mg/m ³
Descaling Accelerator	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 980 mg/m ³ (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m ³ (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m ³	IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m ³ STEL: 500 ppm STEL: 1225 mg/m ³
Propargyl alcohol 107-19-7	TWA: 1 ppm S*	(vacated) TWA: 1 ppm (vacated) TWA: 2 mg/m ³ (vacated) S*	TWA: 1 ppm TWA: 2 mg/m ³
Corrosion Inhibitors & Surfactants	STEL: 6 ppm TWA: 3 ppm	TWA: 3 ppm TWA: 6 mg/m ³ (vacated) TWA: 3 ppm (vacated) TWA: 8 mg/m ³ (vacated) STEL: 6 ppm (vacated) STEL: 15 mg/m ³	IDLH: 30 ppm TWA: 3 ppm TWA: 8 mg/m ³ STEL: 6 ppm STEL: 15 mg/m ³

Appropriate engineering controls

Engineering Controls Apply technical measures to comply with the occupational exposure limits. Ensure adequate ventilation, especially in confined areas. Local exhaust ventilation recommended. Eyewash stations. Showers.

Individual protection measures, such as personal protective equipment

Eye/Face Protection Chemical resistant splash goggles. Refer to 29 CFR 1910.133 for eye and face protection regulations.

Skin and Body Protection Oil/solvent resistant gloves. Protective clothing as required by workplace standards. Refer to 29 CFR 1910.138 for appropriate skin and body protection.

Respiratory Protection Ensure adequate ventilation, especially in confined areas. Refer to 29 CFR 1910.134 for respiratory protection requirements.

General Hygiene Considerations Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes and clothing. After handling this product, wash hands before eating, drinking, or smoking. If contact occurs, remove contaminated clothing. Launder contaminated clothing before reuse.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<p>Physical state Appearance Color</p>	<p>Liquid –Thixotropic Gel Blue, liquid Blue</p>	<p>Odor Odor Threshold</p>	<p>Mild Not determined</p>
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<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	<3.0	
Melting point / freezing point	Not determined	
Boiling Point / Boiling Range	100 °C / 212 °F	
Flash Point	Not determined	
Evaporation Rate	Not determined	
Flammability (Solid, Gas)	Liquid- Not applicable	
Flammability Limit in Air		
Upper Flammability Limit	Not determined	
Lower Flammability Limit	Not determined	
Vapor Pressure	Not determined	
Vapor Density	Not determined	
Relative Density	Not determined	
Water Solubility	Miscible in water	
Solubility in other solvents	Not determined	
Partition Coefficient	Not determined	
Autoignition temperature	Not determined	
Decomposition Temperature	Not determined	
Kinematic Viscosity	35 cSt at 20 C	
Dynamic Viscosity	Not determined	
Explosive Properties	Not applicable	
Oxidizing Properties	Not applicable	

Other Information
VOC Content (%) NDA

10. STABILITY AND REACTIVITY

Reactivity

Not reactive under normal conditions.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

Conditions to Avoid

Keep out of reach of children.

Incompatible Materials

Strong oxidizing agents. Strong acids.

Hazardous Decomposition Products

Smoke, fumes or vapors, and oxides of carbon. Nitrogen oxides (NOx).

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Eye Contact Causes serious eye damage.

Skin Contact Causes skin irritation.

Inhalation May cause respiratory irritation.

Ingestion Do not ingest.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Glycerol 56-81-5	= 12600 mg/kg (Rat)	> 10 g/kg (Rabbit)	> 570 mg/m ³ (Rat) 1 h
Citric Acid 77-92-9	= 3 g/kg (Rat) = 3000 mg/kg (Rat)	-	-
Phosphate Ester Descaling Compound	= 1530 mg/kg (Rat)	= 2740 mg/kg (Rabbit)	> 850 mg/m ³ (Rat) 1 h
Descaling Accelerator	= 1870 mg/kg (Rat)	= 4059 mg/kg (Rabbit)	= 72600 mg/m ³ (Rat) 4 h
Propargyl alcohol 107-19-7	= 55 mg/kg (Rat) = 20 mg/kg (Rat) = 110 mg/kg (Rat)	= 16 mg/kg (Rabbit)	= 1040 ppm (Rat) 1 h = 1200 ppm (Rat) 1 h
Corrosion Inhibitors & Surfactants	= 1720 mg/kg (Rat)	= 1 mL/kg (Rabbit) = 1000 mg/kg (Rabbit)	-
Quaternary Cocoalkylamine Ethoxylate 61791-10-4	= 580 mg/kg (Rat)	-	-

Information on physical, chemical and toxicological effects

Symptoms

Please see section 4 of this SDS for symptoms.

Delayed and immediate effects as well as chronic effects from short and long-term exposure**Carcinogenicity**

Based on the information provided, this product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

Numerical measures of toxicity

Not determined.

12. ECOLOGICAL INFORMATION**Ecotoxicity**

The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Component Information

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Glycerol 56-81-5		51 - 57: 96 h Oncorhynchus mykiss mL/L LC50 static	500: 24 h Daphnia magna mg/L EC50
Citric Acid 77-92-9		1516: 96 h Lepomis macrochirus mg/L LC50 static	120: 72 h Daphnia magna mg/L EC50
Phosphate Ester Descaling Compound		3 - 3.5: 96 h Gambusia affinis mg/L LC50	4.6: 12 h Daphnia magna mg/L EC50
Descaling Accelerator	1000: 72 h Desmodesmus subspicatus mg/L EC50 1000: 96 h Desmodesmus subspicatus mg/L EC50	9640: 96 h Pimephales promelas mg/L LC50 flow-through 1400000: 96 h Lepomis macrochirus µg/L LC50 11130: 96 h Pimephales promelas mg/L LC50 static	13299: 48 h Daphnia magna mg/L EC50
Propargyl alcohol 107-19-7		1.49 - 1.56: 96 h Pimephales promelas mg/L LC50 flow-through	32: 24 h Daphnia magna mg/L EC50
Corrosion Inhibitors & Surfactants	15: 72 h Desmodesmus subspicatus mg/L EC50	300 - 1000: 96 h Lepomis macrochirus mg/L LC50 static 200: 96 h Oncorhynchus mykiss mg/L LC50 flow-through 114 - 196: 96 h Oncorhynchus mykiss mg/L LC50 static 3684: 96 h Brachydanio rerio mg/L LC50 static 227: 96 h Pimephales promelas mg/L LC50 flow-through	65: 48 h Daphnia magna mg/L EC50

Persistence/Degradability

Components of this product are readily biodegradable.

Bioaccumulation

Not determined.

Mobility

Chemical Name	Partition Coefficient
Glycerol 56-81-5	-1.76
Citric Acid 77-92-9	-1.72
Descaling Accelerator	0.05
Corrosion Inhibitors & Surfactants	-1.91

Other Adverse Effects

Not determined

13. DISPOSAL CONSIDERATIONS

Waste Treatment Methods

Disposal of Wastes	Disposal should be in accordance with applicable regional, national and local laws and regulations.
Contaminated Packaging	Disposal should be in accordance with applicable regional, national and local laws and regulations.

14. TRANSPORT INFORMATION

<u>Note</u>	Please see current shipping paper for most up to date shipping information, including exemptions and special circumstances.
<u>DOT</u>	Not regulated
<u>IATA</u>	Not regulated
<u>IMDG</u>	Not regulated

15. REGULATORY INFORMATION

International Inventories

Chemical Name	TSCA	DSL/NDSL	EINECS/E LINCS	ENCS	IECSC	KECL	PICCS	AICS
Glycerol	X	X	X	Present	X	Present	X	X
Citric Acid	X	X	X	Present	X	Present	X	X
Phosphate Ester Descaling Compound	X	X	X	Present	X	Present	X	X
Organic Descaling Compound	X	X	X		X	Present	X	X
Descaling Accelerator	X	X	X	Present	X	Present	X	X
Corrosion Inhibitors & Surfactants	X	X	X	Present	X	Present	X	X
Quaternary Cocoalkylamine Ethoxylate	X	X		Present	X	Present	X	X

Legend:

- TSCA - United States Toxic Substances Control Act Section 8(b) Inventory*
- DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List*
- EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances*
- ENCS - Japan Existing and New Chemical Substances*
- IECSC - China Inventory of Existing Chemical Substances*
- KECL - Korean Existing and Evaluated Chemical Substances*
- PICCS - Philippines Inventory of Chemicals and Chemical Substances*
- AICS - Australian Inventory of Chemical Substances*

US Federal Regulations

CERCLA

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Phosphate Ester Descaling Compound	5000 lb		RQ 5000 lb final RQ RQ 2270 kg final RQ
Propargyl alcohol 107-19-7	1000 lb		RQ 1000 lb final RQ RQ 454 kg final RQ

SARA 311/312 Hazard Categories

Acute Health Hazard

Yes

SARA 313

Chemical Name	CAS No.	Weight-%	SARA 313 - Threshold Values %
Hydronium chloride - 7647-01-0	7647-01-0	<3	1.0
Descaling Accelerator -		<1	1.0
Propargyl alcohol - 107-19-7	107-19-7	<1	1.0

CWA (Clean Water Act)

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Phosphate Ester Descaling Compound	5000 lb			X

US State Regulations**U.S. State Right-to-Know Regulations**

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Glycerol 56-81-5	X	X	X
Phosphate Ester Descaling Compound	X	X	X
Hydronium Chloride 7647-01-0	X	X	X
Descaling Accelerator	X	X	X
Propargyl alcohol 107-19-7	X	X	X
Corrosion Inhibitors & Surfactants	X	X	X

16. OTHER INFORMATION

<u>NFPA</u>	Health Hazards	Flammability	Instability	Special Hazards
	2	0	0	-
<u>HMIS</u>	Health Hazards	Flammability	Physical hazards	Personal Protection
	2	0	0	C

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Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet