

# Safety Data Sheet

LIQUID & CRYSTAL SCALE INHIBITOR

SDS Revision Date:

1/27/2023



## 1. Identification

### 1.1. Product identifier

**Product Identity**

LIQUID & CRYSTAL SCALE INHIBITOR

**Alternate Names**

90-377, Blended Formula, Liquid & Crystal Scale Inhibitor, Scale Inhibitor and Corrosion Water Treatment- 55 gallon

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

**Intended use**

It is used as a self-feeding treatment to inhibit scale formation and corrosion in small cooling towers.

**Application Method**

Read all precautions and instructions carefully before and after use.

### 1.3. Details of the supplier of the safety data sheet

**Company Name**

ComStar International Inc.  
20-47 128th Street,  
College Point, NY 11356

**Telephone No.**

718-445-7900  
800-328-0142  
Fax: 718-353-5998

**Emergency 24 HR response No:** 1-800-424-9300 & 703-527-3887 CHEMTREC

Note: The CHEMTREC phone number is only for emergencies involving spills, leaks, fire, exposure, or accident. Please direct all other inquiries to our customer service phone number.

## 2. Hazard(s) identification

### 2.1. Classification of the substance or mixture

Corrosive to Metals. 1; H290  
Maybe corrosive to metals

Acute toxicity. Oral 4; H302 Harmful if swallowed

Skin Corr 1B; H314 Causes severe skin burns and eye damage.

Eye Dam. 1; H318 Causes serious eye damage.

### 2.2. Label elements

Using the Toxicity Data listed in section 11 and 12 the product is labeled as follows.



**Warning**

H290 Corrosive to metals

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H302 Harmful if swallowed

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage.

## [Prevention]:

## [Response]:

P301 + P312 + P330 If swallowed: Call a poison center/ doctor if you feel unwell. Rinse mouth.

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.

P305 + P351 + P338 + P310 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/ doctor.

P363 Wash contaminated clothing before reuse.

P390 Absorb spillage to prevent material damage.

## [Storage]:

P405 Store locked up.

P406 Store in corrosive resistant container with a resistant inner liner.

## [Disposal]:

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

## 2.3. Hazards not otherwise classified (HNOC) or not covered by GHS

None

## 3. Composition/information on ingredients

This product contains the following substances that present a hazard within the meaning of the relevant State and Federal Hazardous Substances regulations.

Ingredient/Chemical Designations	Weight %	GHS Classification	Notes
PHOSPHORIC ACID SOLUTION CAS#: 7664-38-2	>30	Metal Corr (Oral); H290 Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314	

In accordance with paragraph (i) of §1910.1200, the specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

\*The full texts of the phrases are shown in Section 16.

## 4. First aid measures

### 4.1. Description of first aid measures

#### General

First aiders need to protect themselves. Show this material safety data sheet to the doctor in attendance.

#### Inhalation

After inhalation: fresh air. Call in physician.

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<b>Eyes</b>	After eye contact: rinse out with plenty of water. Immediately call-in ophthalmologist. Remove contact lenses.
<b>Skin</b>	In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Call a physician immediately.
<b>Ingestion</b>	After swallowing: make victim drink water (two glasses at most), avoid vomiting (risk of perforation). Call a physician immediately. Do not attempt to neutralize.

## 4.2. Most important symptoms and effects, both acute and delayed

**Overview** The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

## 5. Fire-fighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Unsuitable extinguishing media

For this substance/mixture no limitations of extinguishing agents are given. For this substance/mixture no limitations of extinguishing agents are given.

### 5.2. Special hazards arising from the substance or mixture

Oxides of phosphorus

Not combustible.

Ambient fire may liberate hazardous vapors.

### 5.3. Advice for fire-fighters

Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

### 5.4. Further information

Suppress (knock down) gases/vapors/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.

ERG Guide No. ---

## 6. Accidental release measures

### 6.1. Personal precautions, protective equipment, and emergency procedures

Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

### 6.2. Environmental precautions

Do not let product enter drains.

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## 6.3. Methods and material for containment and cleaning up

Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

## 6.4 Reference to other section

For disposal see section 13.

## 7. Handling and storage

### 7.1. Precautions for safe handling

For precautions see section 2.2.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage conditions

No metal containers.

Storage class Storage class (TRGS 510): 8B: Non-combustible, corrosive hazardous materials

### 7.3. Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

## 8. Exposure controls and personal protection

### 8.1. Control parameters

#### Exposure

Component	CAS-No.	Value	Control parameters	Basis
phosphoric acid	7664-38-2	TWA	1 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		STEL	3 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values (TLV)
		TWA	1 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		ST	3 mg/m <sup>3</sup>	USA. NIOSH Recommended Exposure Limits
		TWA	1 mg/m <sup>3</sup>	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
		PEL	1 mg/m <sup>3</sup>	California permissible exposure limits for chemical contaminants (Title 8, Article 107)
		STEL	3 mg/m <sup>3</sup>	California permissible exposure limits for chemical contaminants (Title 8, Article 107)

### 8.2 Exposure controls

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## Appropriate engineering controls

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

## Personal protective equipment

### Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Tightly fitting safety goggles

### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### Full contact

Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

### Splash contact

Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 480 min Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the EC approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

## Body Protection

protective clothing

## Respiratory protection

required when vapours/aerosols are generated.

Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

## Control of environmental exposure

Do not let product enter drains.

## 9. Physical and chemical properties

### Appearance

Clear Liquid

### Odor

No data available

### Odor threshold

No data available

### pH

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<b>Melting point / freezing point</b>	No data available
<b>Initial boiling point and boiling range</b>	No data available
<b>Flash Point</b>	No data available
<b>Evaporation rate (Ether = 1)</b>	No data available
<b>Flammability (solid, gas)</b>	No data available
<b>Upper/lower flammability or explosive limits</b>	No data available
<b>Vapor pressure (Pa)</b>	No data available
<b>Vapor Density</b>	Not Measured
<b>Density</b>	1.685 g/cm <sup>3</sup>
<b>Relative density</b>	No data available
<b>Solubility in Water</b>	Completely soluble in water
<b>Partition coefficient n-octanol/water (Log Kow)</b>	No data available
<b>Auto-ignition temperature</b>	Not applicable
<b>Decomposition temperature</b>	No data available
<b>Viscosity (cSt)</b>	No data available
<b>Explosive properties</b>	Not classified as explosive.
<b>Oxidizing properties</b>	none
<b>9.2. Other information</b>	
No other relevant information.	

## 10. Stability and reactivity

### 10.1. Reactivity

No data available

### 10.2. Chemical stability

The product is chemically stable under standard ambient conditions (room temperature) .

### 10.3. Possibility of hazardous reactions

No data available.

### 10.4. Conditions to avoid

no information available

### 10.5. Incompatible materials

Strong bases, Powdered metals

### 10.6. Hazardous decomposition products

In the event of fire: see section 5

## 11. Toxicological information

### 11.1 Information on toxicological effects

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## Mixture

### Acute toxicity

**Oral:** No data available Acute toxicity estimate Oral - 1,471 mg/kg (Calculation method) Symptoms: If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.

**Inhalation:** No data available

Symptoms: mucosal irritations, Cough, Shortness of breath, Possible damages: damage of respiratory tract

### Dermal:

No data available

### Skin corrosion/irritation

Mixture causes burns.

### Serious eye damage/eye irritation

Mixture causes serious eye damage. Risk of blindness!

### Respiratory or skin sensitization

No data available

### Germ cell mutagenicity

No data available

### Carcinogenicity

**IARC:** No ingredient 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 ingredient 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 on OSHA's list of regulated carcinogens.

### Reproductive toxicity

No data available

### Specific target organ toxicity - single exposure

No data available

### Specific target organ toxicity - repeated exposure

No data available

### Aspiration hazard

No data available

## 11.2 Additional Information

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., spasm, inflammation and edema of the larynx, spasm, inflammation and edema of the bronchi,

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pneumonitis, pulmonary edema, burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Nausea Other dangerous properties cannot be excluded.  
Handle in accordance with good industrial hygiene and safety practice.

Stomach - Irregularities - Based on Human Evidence

## Components

### phosphoric acid

#### Acute toxicity

LD50 Oral - Rat - 1,250 mg/kg

Remarks: Lungs, Thorax, or Respiration: Acute pulmonary edema.

Liver: Changes in liver weight. (RTECS)

Inhalation: No data available

Dermal: No data available

#### Skin corrosion/irritation

Skin - Rabbit

Result: Causes burns. - 24 h

Remarks: (ECHA) (Regulation (EC) No 1272/2008, Annex VI)

#### Serious eye damage/eye irritation

Causes serious eye damage.

#### Respiratory or skin sensitization

No data available

#### Germ cell mutagenicity

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium

Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.

Test system: Human lymphocytes

Result: negative

Test Type: In vitro mammalian cell gene mutation test

Test system: mouse lymphoma cells

Result: negative

#### Carcinogenicity

No data available

#### Reproductive toxicity

No data available

#### Specific target organ toxicity - single exposure

No data available

#### Specific target organ toxicity - repeated exposure

No data available

#### Aspiration hazard

No data available

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## 12. Ecological information

### 12.1. Toxicity

#### Mixture

No data available

### 12.2. Persistence and degradability

No data available

### 12.3. Bioaccumulative potential

No data available

### 12.4. Mobility in soil

No data available.

### 12.5. Results of PBT and vPvB assessment

This product contains no PBT/vPvB chemicals.

### 12.6 Endocrine disrupting properties

No data available

### 12.7. Other adverse effects

No data available.

### Components

#### phosphoric acid

Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - > 100 mg/l - 48 h (OECD Test Guideline 202)

Toxicity to algae static test ErC50 - Desmodesmus subspicatus (green algae) - >100 mg/l - 72 h (OECD Test Guideline 201)

Toxicity to bacteria static test EC50 - activated sludge - > 1,000 mg/l - 3 h (OECD Test Guideline 209)

## 13. Disposal considerations

### 13.1. Waste treatment methods

Product Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See [www.retrologistik.com](http://www.retrologistik.com) for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

## 14. Transport information

	DOT (Domestic Surface Transportation)	IMO / IMDG (Ocean Transportation)	ICAO/IATA
14.1. UN number	UN3264	UN3264	UN3264

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<b>14.2. UN proper shipping name</b>	UN3264, Phosphoric Acid Solution/ 8/ iii/ Class 3 (Each not exceeding 1 L capacity),	UN3264, Phosphoric Acid Solution/ 8/ iii/ Class 3 (Each not exceeding 1 L capacity),	UN3264, Phosphoric Acid Solution/ 8/ iii/ Class 3 (Each not exceeding 1 L capacity),
<b>14.3. Transport hazard class(es)</b>	<b>DOT Hazard Class: 3</b>	<b>IMDG: 3</b> <b>Sub Class:</b>	<b>Air Class: 3</b>
<b>14.4. Packing group</b>	III	III	III
<b>14.5. Environmental hazards</b>			
<b>IMDG</b>	Marine Pollutant: No		
<b>14.6. Special precautions for user</b>	No further information		

## 15. Regulatory information

### SARA 302 Components

This material does not contain any components with a section 302 EHS TPQ.

### SARA 313 Components

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

### SARA 311/312 Hazards

Acute Health Hazard, Chronic Health Hazard

### Massachusetts Right to Know Components

No components are subject to the Massachusetts Right to Know Act.

## 16. Other information

The information and recommendations contained herein are based upon data believed to be correct. However, no guarantee or warranty of any kind, expressed or implied, is made with respect to the information contained herein. We accept no responsibility and disclaim all liability for any harmful effects which may be caused by exposure to our products. Customers/users of this product must comply with all applicable health and safety laws, regulations, and orders.

The opinions expressed are those of qualified experts within ComStar International Inc. We believe that the information contained is current as of the date of the Material Safety Data Sheet. Since the use of this information and of these opinions and the conditions of the use of the product are not within the control of ComStar International Inc., it is the user's obligation to determine the conditions of safe use of the product.

End of Document



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