



# SAFETY DATA SHEET

## GENGARD\* GN8220

### 1. Identification

**Product identifier** GENGARD GN8220  
**Other means of identification** None.  
**Recommended use** Corrosion inhibitor  
**Recommended restrictions** None known.

#### Company/undertaking identification

SUEZ WTS USA, Inc.  
4636 Somerton Road  
Trevose, PA 19053  
T 215 355 3300, F 215 953 5524

#### Emergency telephone

(800) 877 1940

### 2. Hazard(s) identification

<b>Physical hazards</b>	Corrosive to metals	Category 1
<b>Health hazards</b>	Skin corrosion/irritation	Category 2
	Serious eye damage/eye irritation	Category 2
	Sensitization, skin	Category 1A
<b>OSHA defined hazards</b>	Not classified.	

#### Label elements



**Signal word** Warning

**Hazard statement** May be corrosive to metals. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.

#### Precautionary statement

**Prevention** Keep only in original packaging. Avoid breathing mist/vapor. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Wear eye protection/face protection. Wear protective gloves.

**Response** If on skin: Wash with plenty of water. 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. If eye irritation persists: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Absorb spillage to prevent material damage.

**Storage** Store in corrosive resistant container with a resistant inner liner.

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** None.

### 3. Composition/information on ingredients

#### Mixtures

Components	CAS #	Percent
CARBOXYLIC ACID POLYMER	TSRN 125438 - 5052P	
Phosphoric Acid	7664-38-2	2.5 - 10
Maleic acid	110-16-7	0.1 - 1

**Composition comments** Information for specific product ingredients as required by the U.S. OSHA HAZARD COMMUNICATION STANDARD is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
<b>Ingestion</b>	Rinse mouth. Get medical attention if symptoms occur.
<b>Most important symptoms/effects, acute and delayed</b>	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO <sub>2</sub> ).
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Wear full protective clothing, including helmet, self-contained positive pressure or pressure demand breathing apparatus, protective clothing and face mask.
<b>Fire fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk. Cool containers / tanks with water spray.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.

### 6. Accidental release measures

<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	Prevent entry into waterways, sewer, basements or confined areas.  Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb spillage to prevent material damage. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.  Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
<b>Environmental precautions</b>	Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

## 7. Handling and storage

<b>Precautions for safe handling</b>	Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Keep only in the original container. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

### Occupational exposure limits

#### US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	PEL	1 mg/m <sup>3</sup>

#### US. ACGIH Threshold Limit Values

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m <sup>3</sup>
	TWA	1 mg/m <sup>3</sup>

#### US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Phosphoric Acid (CAS 7664-38-2)	STEL	3 mg/m <sup>3</sup>
	TWA	1 mg/m <sup>3</sup>

<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<b>Appropriate engineering controls</b>	Provide eyewash station and safety shower. Good general ventilation should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin protection</b>	
<b>Hand protection</b>	Wear appropriate chemical resistant gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Glove selection must take into account any solvents and other hazards present.
<b>Other</b>	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
<b>Respiratory protection</b>	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. A RESPIRATORY PROTECTION PROGRAM THAT MEETS OSHA'S 29 CFR 1910.134 AND ANSI Z88.2 REQUIREMENTS MUST BE FOLLOWED WHENEVER WORKPLACE CONDITIONS WARRANT A RESPIRATOR'S USE.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Contaminated work clothing should not be allowed out of the workplace.

## 9. Physical and chemical properties

### Appearance

<b>Color</b>	Amber
<b>Physical state</b>	Liquid
<b>Odor</b>	Slight sweet
<b>Odor threshold</b>	Not available.
<b>pH (concentrated product)</b>	2.1
<b>pH in aqueous solution</b>	2.5 (5% SOL.)
<b>Melting point/freezing point</b>	27 °F (-3 °C)
<b>Initial boiling point and boiling range</b>	212 °F (100 °C)
<b>Flash point</b>	Not applicable.

<b>Evaporation rate</b>	< 1 (Ether = 1)
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	18 mm Hg / 2.4 kPa
<b>Vapor pressure temp.</b>	70 °F (21 °C)
<b>Vapor density</b>	< 1 (Air = 1)
<b>Relative density</b>	1.16
<b>Relative density temperature</b>	70 °F (21 °C)
<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	100 %
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	22 cps
<b>Viscosity temperature</b>	70 °F (21 °C)
<b>Other information</b>	
<b>Explosive properties</b>	Not explosive.
<b>Oxidizing properties</b>	Not oxidizing.
<b>Pour point</b>	32 °F (0 °C)
<b>Specific gravity</b>	1.162
<b>VOC</b>	0 % (Estimated)

## 10. Stability and reactivity

<b>Reactivity</b>	May be corrosive to metals.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. Contact with incompatible materials. None under normal conditions.
<b>Incompatible materials</b>	Strong oxidizing agents. Metals.
<b>Hazardous decomposition products</b>	Oxides of carbon and phosphorus evolved in fire.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	Prolonged inhalation may be harmful.
<b>Skin contact</b>	Causes skin irritation. May cause an allergic skin reaction.
<b>Eye contact</b>	Causes serious eye irritation.
<b>Ingestion</b>	May cause burns in mouth, throat and/or stomach.

**Symptoms related to the physical, chemical and toxicological characteristics** Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

### Information on toxicological effects

#### Acute toxicity

Product	Species	Test Results
GENGARD GN8220 (CAS Mixture)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
<i>Inhalation</i>		
LC50	Rat	> 5 mg/l, 4 Hours, (Calculated according to GHS additivity formula)
<i>Oral</i>		
LD50	Rat	> 5000 mg/kg, (Calculated according to GHS additivity formula)

Components	Species	Test Results
------------	---------	--------------

CARBOXYLIC ACID POLYMER (CAS TSRN 125438 - 5052P)

<b>Acute</b>		
<i>Oral</i>		
LD50	Rat	4563 mg/kg
Maleic acid (CAS 110-16-7)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	1560 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 2.88 mg/L, 4 Hour
<i>Oral</i>		
LD50	Rat	708 mg/kg
Phosphoric Acid (CAS 7664-38-2)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	2740 mg/kg
<i>Oral</i>		
LD50	Rat	300 mg/kg

**Skin corrosion/irritation** Causes skin irritation.

**Serious eye damage/eye irritation** Causes serious eye irritation.

**Respiratory or skin sensitization**

**Respiratory sensitization** This product is not expected to cause respiratory sensitization.

**Skin sensitization** May cause an allergic skin reaction.

**Germ cell mutagenicity** Not classified.

**Carcinogenicity** Not classified.

**IARC Monographs. Overall Evaluation of Carcinogenicity**

Not listed.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

Not regulated.

**US. National Toxicology Program (NTP) Report on Carcinogens**

Not listed.

**Reproductive toxicity** Not classified.

**Specific target organ toxicity - single exposure** Not classified.

**Specific target organ toxicity - repeated exposure** Not classified.

**Aspiration hazard** Based on available data, the classification criteria are not met.

## 12. Ecological information

### Ecotoxicity

Product	Species	Test Results
GENGARD GN8220 (CAS Mixture)	LC50	Fathead Minnow 450 mg/L, Acute Toxicity, 96 hour, (Estimated)
	NOEL	Fathead Minnow 310 mg/L, Acute Toxicity, 96 hour, (Estimated)
<b>Aquatic</b> Crustacea	LC50	Daphnia magna 1490 mg/L, Acute Toxicity, 48 hour, (Estimated)
	NOEL	Daphnia magna 1000 mg/L, Acute Toxicity, 48 hour, (Estimated)

**Persistence and degradability** Not available.

### Bioaccumulative potential

#### Partition coefficient n-octanol / water (log Kow)

Maleic acid -0.48

**Mobility in soil** No data available.

**Other adverse effects** Not available.

### Persistence and degradability

- COD (mgO <sub>2</sub> /g)	268 (calculated data)
- BOD 5 (mgO <sub>2</sub> /g)	15 (calculated data)
- BOD 28 (mgO <sub>2</sub> /g)	37 (calculated data)
- Closed Bottle Test (% Degradation in 28 days)	14 (calculated data)
- TOC (mg C/g)	81 (calculated data)

## 13. Disposal considerations

**Disposal instructions** Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Incinerate the material under controlled conditions in an approved incinerator. Dispose of contents/container in accordance with local/regional/national/international regulations.

**Local disposal regulations** Dispose in accordance with all applicable regulations.

**Hazardous waste code** D002: Waste Corrosive material [pH <=2 or =>12.5, or corrosive to steel]  
The waste code should be assigned in discussion between the user, the producer and the waste disposal company.

**Waste from residues / unused products** Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

**Contaminated packaging** Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

## 14. Transport information

### DOT

<b>UN number</b>	UN1760
<b>UN proper shipping name</b>	Corrosive liquids, n.o.s. (PHOSPHORIC ACID, CARBOXYLIC ACID POLYMER)
<b>Transport hazard class(es)</b>	
<b>Class</b>	8
<b>Subsidiary risk</b>	-
<b>Packing group</b>	III
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.
<b>ERG number</b>	154

Some containers may be exempt from Dangerous Goods/Hazmat Transport Regulations, please check BOL for exact container classification.

### IATA

<b>UN number</b>	UN1760
<b>UN proper shipping name</b>	Corrosive liquid, n.o.s. (PHOSPHORIC ACID, CARBOXYLIC ACID POLYMER)

**Transport hazard class(es)**

**Class** 8

**Subsidiary risk** -

**Packing group** III

**Environmental hazards** No.

**ERG Code** 154

**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

**IMDG**

**UN number** UN1760

**UN proper shipping name** CORROSIVE LIQUID, N.O.S. (PHOSPHORIC ACID, CARBOXYLIC ACID POLYMER)

**Transport hazard class(es)**

**Class** 8

**Subsidiary risk** -

**Packing group** III

**Environmental hazards**

**Marine pollutant** No.

**EmS** F-A, S-B

**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

**DOT**



**IATA; IMDG**



**15. Regulatory information**

**US federal regulations**

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

**TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)**

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Maleic acid (CAS 110-16-7) Listed.

Phosphoric Acid (CAS 7664-38-2) Listed.

**SARA 304 Emergency release notification**

Not regulated.

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)**

Not regulated.

**Superfund Amendments and Reauthorization Act of 1986 (SARA)**

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** Yes

**Classified hazard categories** Corrosive to metal  
Skin corrosion or irritation  
Serious eye damage or eye irritation  
Respiratory or skin sensitization

**SARA 313 (TRI reporting)**  
Not regulated.

**Other federal regulations**

**Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List**

Acrylic acid (CAS 79-10-7)

**Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)**

Not regulated.

**Safe Drinking Water Act (SDWA)** Not regulated.

**FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace**

Phosphoric Acid (CAS 7664-38-2) High priority

**Inventory status**

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)  
A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**NSF Registered and/or meets USDA (according to 1998 guidelines):** Registration No. – 144525  
Category Code(s):  
G5 Cooling and retort water treatment products  
G7 Boiler, steam line treatment products – nonfood contact

**US state regulations**

**US. California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 2016 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins. For more information go to [www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

**US - California Proposition 65 - CRT: Listed date/Carcinogenic substance**

No ingredient listed.

**US - California Proposition 65 - CRT: Listed date/Developmental toxin**

No ingredient listed.

**US - California Proposition 65 - CRT: Listed date/Female reproductive toxin**

No ingredient listed.

**US - California Proposition 65 - CRT: Listed date/Male reproductive toxin**

No ingredient listed.

**16. Other information, including date of preparation or last revision**

**Issue date** Nov-17-2014  
**Revision date** Feb-19-2019  
**Version #** 5.0  
**NFPA ratings** Health: 2  
Flammability: 0  
Instability: 0

**NFPA ratings**





**List of abbreviations**

CAS: Chemical Abstract Service Registration Number  
TWA: Time Weighted Average  
STEL: Short Term Exposure Limit  
LD50: Lethal Dose, 50%  
LC50: Lethal Concentration, 50%  
NOEL: No Observed Effect Level  
COD: Chemical Oxygen Demand  
BOD: Biochemical Oxygen Demand  
TOC: Total Organic Carbon  
ACGIH: American Conference of Governmental Industrial Hygienists  
IATA: International Air Transport Association  
IMDG: International Maritime Dangerous Goods Code  
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.

**References:**

No data available

**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.

**Revision information**

This document has undergone significant changes and should be reviewed in its entirety.

**Prepared by**

This SDS has been prepared by SUEZ Regulatory Department (1-215-355-3300).

\* Trademark of SUEZ. May be registered in one or more countries.