



# SAFETY DATA SHEET

## GENGARD\* GN8142

### 1. Identification

<b>Product identifier</b>	<b>GENGARD GN8142</b>
<b>Other means of identification</b>	None.
<b>Version #</b>	4.2
<b>Revision date</b>	May-27-2018
<b>Supersedes date</b>	Dec-18-2017
<b>Recommended use</b>	Corrosion inhibitor
<b>Recommended restrictions</b>	None known.

#### Company/undertaking identification

SUEZ Water Technologies & Solutions Canada  
3239 Dundas Street West  
Oakville, Ontario, L6M 4B2  
T 905-465-3030

#### 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 1A
	Serious eye damage/eye irritation	Category 1
	Sensitization, skin	Category 1A
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation

#### Label elements



**Signal word** Danger

**Hazard statement** May be corrosive to metals. Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage. May cause respiratory irritation.

#### Precautionary statement

##### Prevention

Keep only in original packaging. Do not breathe mist or vapor. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

##### Response

IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. 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 skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. Absorb spillage to prevent material-damage.

<b>Storage</b>	Store in a well-ventilated place. Keep container tightly closed. Store locked up. Store in corrosive resistant container with a resistant inner liner.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Other hazards</b>	None known.
<b>Supplemental information</b>	None.

### 3. Composition/information on ingredients

#### Mixtures

Components	CAS #	Percent (wt/wt)
Sodium diethylenetriamine penta(methylenephosphonate)	22042-96-2	7 - 13
Sodium hydroxide	1310-73-2	1 - 5
Chlorotolyltriazole sodium salt	202420-04-0	0.5 - 1.5
Sodium molybdate	7631-95-0	0.1 - 1

**Composition comments** Information for specific product ingredients as required by the WHMIS Regulations is listed. Refer to additional sections of this SDS for our assessment of the potential hazards of this formulation.

### 4. First-aid measures

**Inhalation** 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.

**Skin contact** Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.

**Eye contact** Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

**Ingestion** Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.

**Most important symptoms/effects, acute and delayed** Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

**Indication of immediate medical attention and special treatment needed** Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

**General information** If you feel unwell, seek medical advice (show the label where possible). 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

**Suitable extinguishing media** Not available.

**Unsuitable extinguishing media** Do not use water jet as an extinguisher, as this will spread the fire.

**Specific hazards arising from the chemical** During fire, gases hazardous to health may be formed.

**Special protective equipment and precautions for firefighters** Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

**Fire fighting equipment/instructions** Use standard firefighting procedures and consider the hazards of other involved materials. Move containers from fire area if you can do so without risk.

**Specific methods** Use standard firefighting procedures and consider the hazards of other involved materials.

### 6. Accidental release measures

**Personal precautions, protective equipment and emergency procedures** Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or 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.

## Methods and materials for containment and cleaning up

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.

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.

## Environmental precautions

## 7. Handling and storage

### Precautions for safe handling

Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

### Conditions for safe storage, including any incompatibilities

Store locked up. Store in a cool, dry place out of direct sunlight. Store in corrosive resistant container with a resistant inner liner. 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. ACGIH Threshold Limit Values

Components	Type	Value	Form
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m <sup>3</sup>	
Sodium molybdate (CAS 7631-95-0)	TWA	0.5 mg/m <sup>3</sup>	Respirable fraction.

#### Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Type	Value	Form
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m <sup>3</sup>	
Sodium molybdate (CAS 7631-95-0)	TWA	0.5 mg/m <sup>3</sup>	Respirable.

#### Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Type	Value	Form
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m <sup>3</sup>	
Sodium molybdate (CAS 7631-95-0)	TWA	0.5 mg/m <sup>3</sup>	Respirable.

#### Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Type	Value	Form
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m <sup>3</sup>	
Sodium molybdate (CAS 7631-95-0)	TWA	0.5 mg/m <sup>3</sup>	Respirable fraction.

#### Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

Components	Type	Value	Form
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m <sup>3</sup>	
Sodium molybdate (CAS 7631-95-0)	TWA	0.5 mg/m <sup>3</sup>	Respirable fraction.

#### Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)

Components	Type	Value	Form
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m <sup>3</sup>	
Sodium molybdate (CAS 7631-95-0)	TWA	5 mg/m <sup>3</sup>	

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

Components	Type	Value
Sodium hydroxide (CAS 1310-73-2)	Ceiling	2 mg/m <sup>3</sup>
<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).	
<b>Appropriate engineering controls</b>	Good general ventilation (typically 10 air changes per hour) 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. Eye wash facilities and emergency shower must be available when handling this product.	
<b>Individual protection measures, such as personal protective equipment</b>		
<b>Eye/face protection</b>	Splash proof chemical goggles. Face shield.	
<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. Suitable gloves can be recommended by the glove supplier. Glove selection must take into account any solvents and other hazards present.	
<b>Other</b>	Wear appropriate chemical resistant clothing.	
<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.	
<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

<b>Appearance</b>	Liquid
<b>Color</b>	Amber to dark brown
<b>Odor</b>	Slight ammonia odor
<b>Odor threshold</b>	Not available.
<b>pH (concentrated product)</b>	13.5 Neat
<b>pH in aqueous solution</b>	12.1 (5% Solution)
<b>Melting point/freezing point</b>	11 °F (-12 °C)
<b>Initial boiling point and boiling range</b>	219 °F (104 °C)
<b>Flash point</b>	> 214 °F (> 101 °C) P-M(CC)
<b>Evaporation rate</b>	Slower than Ether
<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 mmHg
<b>Vapor pressure temp.</b>	70 °F (21 °C)
<b>Vapor density</b>	< 1
<b>Relative density</b>	1.23
<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>	52 mPa.s
<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>	16 °F (-9 °C)
<b>Specific gravity</b>	1.233
<b>VOC</b>	0 % ESTIMATED

## 10. Stability and reactivity

<b>Reactivity</b>	May be corrosive to metals.
<b>Chemical stability</b>	Not available.
<b>Possibility of hazardous reactions</b>	Hazardous polymerization does not occur.
<b>Conditions to avoid</b>	Contact with incompatible materials.
<b>Incompatible materials</b>	Strong acids. Strong oxidizing agents. Metals.
<b>Hazardous decomposition products</b>	Hydrogen chloride, oxides of carbon, nitrogen, and phosphorus evolved in fire.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause irritation to the respiratory system. Prolonged inhalation may be harmful.
<b>Skin contact</b>	Causes severe skin burns. May cause an allergic skin reaction.
<b>Eye contact</b>	Causes serious eye damage.
<b>Ingestion</b>	Causes digestive tract burns.

**Symptoms related to the physical, chemical and toxicological characteristics** Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result. May cause respiratory irritation.

### Information on toxicological effects

**Acute toxicity** May cause respiratory irritation. May cause an allergic skin reaction.

<b>Product</b>	<b>Species</b>	<b>Test Results</b>
GENGARD GN8142 (CAS Mixture)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg, (Calculated according to GHS additivity formula)
<i>Oral</i>		
LD50	Rat	3110 mg/kg, (Calculated according to GHS additivity formula)
<b>Components</b>	<b>Species</b>	<b>Test Results</b>
Chlorotolyltriazole sodium salt (CAS 202420-04-0)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rat	> 5000 mg/kg
<i>Oral</i>		
LD50	Rat	3100 mg/kg
Sodium hydroxide (CAS 1310-73-2)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	1350 mg/kg
<i>Oral</i>		
LD50	Rabbit	> 500 mg/kg

Components	Species	Test Results
Sodium molybdate (CAS 7631-95-0)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	> 2000 mg/kg
<i>Inhl</i>		
LC50	Rat	> 2.08 mg/l/4h
<i>Oral</i>		
LD50	Rat	4000 mg/kg

\* Estimates for product may be based on additional component data not shown.

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

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

**Respiratory or skin sensitization**

**Canada - Alberta OELs: Irritant**

Sodium hydroxide (CAS 1310-73-2) Irritant

Sodium molybdate (CAS 7631-95-0) Irritant

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

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

**Germ cell mutagenicity** No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

**Carcinogenicity**

**ACGIH Carcinogens**

Sodium molybdate (CAS 7631-95-0) A3 Confirmed animal carcinogen with unknown relevance to humans.

**Canada - Manitoba OELs: carcinogenicity**

Sodium molybdate (CAS 7631-95-0) Confirmed animal carcinogen with unknown relevance to humans.

**Reproductive toxicity** This product is not expected to cause reproductive or developmental effects.

**Specific target organ toxicity - single exposure** May cause respiratory irritation.

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

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

**Chronic effects** Prolonged inhalation may be harmful.

**12. Ecological information**

**Ecotoxicity**

Product	Species	Test Results	
GENGARD GN8142 (CAS Mixture)			
LC50	Fathead Minnow	665 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)	
LOEC	Fathead Minnow	625 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)	
<b>Aquatic</b>			
Crustacea	LC50	Daphnia magna	1112 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)
	NOEL	Daphnia magna	625 mg/L, Static Renewal Bioassay, 48 hour, (pH adjusted)
Fish	LC50	Rainbow Trout	281 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)
	NOEL	Rainbow Trout	200 mg/L, Static Renewal Bioassay, 96 hour, (pH adjusted)

Components	Species		Test Results
Chlorotolyltriazole sodium salt (CAS 202420-04-0)			
<b>Aquatic</b>			
Algae	EbC50	Algae	6.84 mg/l
	ErC50	Algae	18.6 mg/l

#### Bioaccumulative potential

##### Bioconcentration factor (BCF)

Sodium diethylenetriamine penta(methylenephosphonate) < 10, OECD Guideline 305 (Bioconcentration: Flow-through Fish Test)  
 Species: Carp (Cyprinus carpio carpio)  
 Test Duration: 28 days

##### Mobility in soil

No data available.

##### Other adverse effects

No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

#### Persistence and degradability

No data is available on the degradability of this product.

- COD (mgO<sub>2</sub>/g) 241 (calculated data)
- BOD 5 (mgO<sub>2</sub>/g) 11 (calculated data)
- BOD 28 (mgO<sub>2</sub>/g) 26 (calculated data)
- Closed Bottle Test (% Degradation in 28 days) 11 (calculated data)
- TOC (mg C/g) 69 (calculated data)

### 13. Disposal considerations

#### Disposal instructions

Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Local disposal regulations

Dispose in accordance with all applicable regulations.

#### 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

#### TDG

- UN number** UN1760
- UN proper shipping name** CORROSIVE LIQUID, N.O.S. (Sodium hydroxide, DIETHYLENETRIAMINE PENTAMETHYLENE PHOSPHONIC ACID,SODIUM SALT)
- Transport hazard class(es)**
- Class** 8
- Subsidiary risk** -
- Packing group** II
- Environmental hazards** Not available.

The goods described above have been classified using a combination of testing, technical data, calculations and manufacturer knowledge in accordance with Part 2, Classification. TDG Classification is valid for road or rail transport only. For shipment by air or water, refer to IATA or IMDG regulations.

#### DOT

- UN number** UN1760
- UN proper shipping name** Corrosive liquids, n.o.s. (Sodium hydroxide, DIETHYLENETRIAMINE PENTAMETHYLENE PHOSPHONIC ACID,SODIUM SALT)
- Transport hazard class(es)**
- Class** 8
- Packing group** II
- Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.
- ERG number** 154

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

#### IMDG

**UN number** UN1760  
**UN proper shipping name** CORROSIVE LIQUID, N.O.S. (SODIUM HYDROXIDE, DIETHYLENETRIAMINE PENTAMETHYLENE PHOSPHONIC ACID,SODIUM SALT)  
**Transport hazard class(es)**  
    **Class** 8  
    **Subsidiary risk** -  
**Packing group** II  
**Environmental hazards**  
    **Marine pollutant** No.  
**EmS** F-A, S-B  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

#### IATA

**UN number** UN1760  
**UN proper shipping name** Corrosive liquid, n.o.s. (Sodium hydroxide, DIETHYLENETRIAMINE PENTAMETHYLENE PHOSPHONIC ACID,SODIUM SALT)  
**Transport hazard class(es)**  
    **Class** 8  
    **Subsidiary risk** -  
**Packing group** II  
**Environmental hazards** No.  
**ERG Code** 154  
**Special precautions for user** Read safety instructions, SDS and emergency procedures before handling.

#### DOT



#### IATA; IMDG; TDG



## 15. Regulatory information

### Canadian regulations

#### Controlled Drugs and Substances Act

Not regulated.

#### Export Control List (CEPA 1999, Schedule 3)

Not listed.

#### Greenhouse Gases

Not listed.

#### Precursor Control Regulations

Not regulated.



## 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).

<b>NSF Registered and/or meets USDA (according to 1998 guidelines):</b>	Registration No. – 144581 Category Code(s): G5 Cooling and retort water treatment products G7 Boiler, steam line treatment products – nonfood contact
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## 16. Other information

**Issue date** Aug-17-2016

**Revision date** May-27-2018

**Version #** 4.2

**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  
TLV: Threshold Limit Value  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
TSRN indicates a Trade Secret Registry Number is used in place of the CAS number.  
IMDG: International Maritime Dangerous Goods Code

**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** Other information: Disclaimer  
GHS: Classification

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