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Version: 6.2
Effective date: 03/12/2020
Previous Date: 17/10/2019

SAFETY DATA SHEET

GENGARD GN8274 (CoolGard TS 17)

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Trade name or designation of the mixture GENGARD GN8274 (CoolGard TS 17)

Date of first issue 26/03/2010

Version number 6.2

Revision date 03/12/2020

Supersedes date 17/10/2019

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

Identified uses Corrosion inhibitor

Uses advised against None known.

1.3. Details of the supplier of the safety data sheet

JV Process and Water Chemicals LLC

Address: Street V. Kadirov 10, Chirchik city,
Tashkent Region, Republic of Uzbekistan, 111727

Tel: +99871 209 10 40

Email address: info@pwch.uz

www.pwch.uz

1.4. Emergency telephone number

Multilingual emergency number (24/7)

Street V. Kadirov 10, Chirchik city,
Tashkent Region,
Republic of Uzbekistan, 111727

Tel: +99871 209 10 40

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008 as amended

Physical hazards

Corrosive to metals Category 1 H290 - May be corrosive to metals.

Health hazards

Skin corrosion/irritation Category 2 H315 - Causes skin irritation.

Serious eye damage/eye irritation Category 1 H318 - Causes serious eye damage.

Skin sensitisation Category 1 H317 - May cause an allergic skin reaction.

2.2. Label elements

Label according to Regulation (EC) No. 1272/2008 as amended

Contains: Maleic acid, Polymaleic acid(2-butenedioc acid(z-), homopolymer)



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Hazard pictograms



Signal word

Danger

Hazard statements

H290 May be corrosive to metals.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.

Precautionary statements

Prevention

P234 Keep only in original packaging.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P302 + P352 IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.
P310 Immediately call a POISON CENTRE/doctor.

Storage

Not available.

Disposal

Not available.

Supplemental label information None.

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients

Mixtures

Chemical description Aqueous solution of inorganic acid and polymer

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	Index No.	Notes
Polymaleic acid(2-butenedioic acid(z-), homopolymer)	10 - < 20	26099-09-2	-	-	
Classification:	Met. Corr. 1;H290, Skin Irrit. 2;H315, Eye Dam. 1;H318				
Phosphoric acid	1 - 3	7664-38-2 231-633-2	01-2119485924-24	015-011-00-6	#
Classification:	Met. Corr. 1;H290, Acute Tox. 4;H302, Skin Corr. 1B;H314				
Maleic acid	< 1	110-16-7 203-742-5	01-2119488705-25	607-095-00-3	
Classification:	Acute Tox. 4;H302, Acute Tox. 4;H312, Skin Irrit. 2;H315, Skin Sens. 1;H317, Eye Irrit. 2;H319, STOT SE 3;H335				

The classification of the above substance(s) is given, including the hazard class, category code and hazard statements which are assigned in accordance with their physicochemical, health and environmental hazards. Please refer to section 16 where the full text of each relevant H-statement is listed. This product is a preparation.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Move to fresh air.

Skin contact

Take off immediately all contaminated clothing.
Wash off immediately with plenty of water for at least 15 minutes.
Get medical attention immediately.



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Eye contact	Rinse immediately with plenty of water for at least 15 minutes. Call a physician or poison control centre immediately.
Ingestion	Rinse mouth. Do not give anything to eat or drink. Do not induce vomiting. Call a physician or poison control centre immediately.
4.2. Most important symptoms and effects, both acute and delayed	Causes serious eye damage. Irritant effects. May cause allergic skin reaction.
4.3. Indication of any immediate medical attention and special treatment needed	Not available.

SECTION 5: Firefighting measures

5.1. Extinguishing media	
Suitable extinguishing media	Dry chemical, CO2, water spray or regular foam.
Unsuitable extinguishing media	None.
5.2. Special hazards arising from the substance or mixture	Oxides of carbon, nitrogen, phosphorus, and sulphur evolved in fire.
5.3. Advice for firefighters	
Special protective equipment for firefighters	Self contained breathing apparatus. (CEN : EN 137) Protective clothing (CEN : EN 469) Protective gloves (CEN : EN 659) Helmet (CEN : EN 443)
Special fire fighting procedures	Use standard firefighting procedures and consider the hazards of other involved materials. Prevent spillage and fire-fighting water from entering in public sewers or the immediate environment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures	
For non-emergency personnel	Wear protective clothing, gloves and safety goggles.
For emergency responders	Use personal protection recommended in Section 8 of the SDS.
6.2. Environmental precautions	Prevent from entering sewers or the immediate environment. Accidental release of large quantities into the aquatic environment may harm aquatic organisms.
6.3. Methods and material for containment and cleaning up	Absorb onto inert material and dispose of according to Hazardous Waste Regulations. Remove small spills with plenty of water.
6.4. Reference to other sections	Please refer also to section no. 8 'Exposure controls' for further information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling	Handle in accordance with good industrial hygiene and safety procedures.
7.2. Conditions for safe storage, including any incompatibilities	Store in cool, well ventilated area. Protect from freezing. If frozen, thaw completely and mix thoroughly prior to use. Do not store at elevated temperatures. Store containers closed when not in use.
7.3. Specific end use(s)	Only for professional and industrial users
Shelf life	720 days

SECTION 8: Exposure controls/personal protection

8.1. Control parameters



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Occupational exposure limits

UK. EH40 Workplace Exposure Limits (WELs)

Components	Type	Value
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m ³
	TWA	1 mg/m ³

EU. Indicative Exposure Limit Values in Directives 91/322/EEC, 2000/39/EC, 2006/15/EC, 2009/161/EU

Components	Type	Value
Phosphoric acid (CAS 7664-38-2)	STEL	2 mg/m ³
	TWA	1 mg/m ³

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures Not available.

Derived no effect levels (DNELs)

Workers

Components	Value	Assessment factor	Notes
Maleic acid (CAS 110-16-7)			
Long-term, Local, Dermal	0,04 mg/cm ²		Skin irritation/corrosion
Long-term, Local, Inhalation	3 mg/m ³		Skin irritation/corrosion
Long-term, Systemic, Dermal	3,3 mg/kg/day		Repeated dose toxicity
Long-term, Systemic, Inhalation	3 mg/m ³		Repeated dose toxicity
Short-term, Local, Dermal	0,55 mg/cm ²		Skin irritation/corrosion
Short-term, Local, Inhalation	3 mg/m ³		Skin irritation/corrosion
Short-term, Systemic, Dermal	58 mg/kg/day		Repeated dose toxicity
Short-term, Systemic, Inhalation	3 mg/m ³		Repeated dose toxicity
Phosphoric acid (CAS 7664-38-2)			
Long-term, Local, Inhalation	1 mg/m ³		Repeated dose toxicity
Long-term, Systemic, Inhalation	10,7 mg/m ³	50	Repeated dose toxicity
Short-term, Local, Inhalation	2 mg/m ³		
Short-term, Systemic, Inhalation	2,92 mg/m ³	300	Repeated dose toxicity

Predicted no effect concentrations (PNECs)

Components	Value	Assessment factor	Notes
Maleic acid (CAS 110-16-7)			
Freshwater	0,1 mg/l	100	
Marine water	0,01 mg/l	1000	
Sediment (freshwater)	0,334 mg/kg		
Sediment (marine water)	0,033 mg/kg		
Soil	0,042 mg/kg		
STP	44,6 mg/l	1	

8.2. Exposure controls

Appropriate engineering controls Adequate ventilation to maintain air contaminants below exposure limits.
 Provide eyewash station.

Individual protection measures, such as personal protective equipment

- Eye/face protection** Splash proof chemical goggles.
CEN : EN 166
- Skin protection**
- **Hand protection** Gauntlet type neoprene gloves (Protection against unintentional short-term contact)
 Gauntlet type nitrile gloves (Protection against unintentional short-term contact)
 Coating thickness: 0.5 mm
 Penetration time: > 480 min
 CEN : EN 374-1/2/3/4; EN 420
- **Other** Wear suitable protective clothing.
CEN : EN ISO 13688; EN ISO 6529; EN 14605
- Respiratory protection** In case of insufficient ventilation, use a breathing mask with filter type: P2
CEN : EN 140; EN 143; EN 149



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Thermal hazards	Not available.
Environmental exposure controls	Prevent from entering in public sewers or the immediate environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance

Colour	Dark amber
Physical state	Liquid
Odour	Slight sweet
Odour threshold	Not available.
pH (concentrated product)	2,6
pH in aqueous solution	3 (5% SOL.)
Melting point/freezing point	-3 °C
Initial boiling point and boiling range	> 100 °C
Flash point	Not applicable.
Evaporation rate	< 1 (Ether = 1)
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Vapour pressure	18 mm Hg
Vapour pressure temp.	21 °C
Vapour density	< 1 (Air = 1)
Relative density	1,15
Relative density temperature	21 °C

Solubility

Solubility (water)	100 %
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not applicable.
Decomposition temperature	Not available.
Viscosity	12 cps
Viscosity temperature	21 °C
Explosive properties	Not available.
Oxidising properties	Not available.

9.2. Other information

Pour point	0 °C
Shelf life	720 days
VOC	0 % (Estimated)

SECTION 10: Stability and reactivity

10.1. Reactivity	Not available.
10.2. Chemical stability	Material is stable under normal conditions.
10.3. Possibility of hazardous reactions	Not applicable.
10.4. Conditions to avoid	No special requirement.



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- 10.5. Incompatible materials** Avoid contact with strong oxidisers.
 Avoid contact with strong bases.
- 10.6. Hazardous decomposition products** Oxides of carbon, nitrogen, phosphorus, and sulphur evolved in fire.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Product	Test Results
GENGARD GN8274 (CoolGard TS 17) (Mixture)	Acute Dermal LD50 Rabbit: > 5000 mg/kg (Calculated according to GHS additivity formula) Acute Oral LD50 Rat: > 5000 mg/kg (Calculated according to GHS additivity formula)
Components	Test Results
Maleic acid (110-16-7)	Acute Dermal LD50 Rabbit: 1560 mg/kg Acute Inhalation LC50 Rat: > 2,88 mg/l 4 hour Acute Oral LD50 Rat: 708 mg/kg
Polymaleic acid(2-butenediic acid(z-), homopolymer) (26099-09-2)	Acute Oral LD50 Rat: 4563 mg/kg
Phosphoric acid (7664-38-2)	Acute Dermal LD50 Rabbit: 2740 mg/kg Acute Oral LD50 Rat: 300 mg/kg

- Acute toxicity** Based on available data, the classification criteria are not met.
- Skin corrosion/irritation** Causes skin irritation.
- Serious eye damage/irritation** Causes serious eye damage.
- Respiratory or skin sensitisation** May cause an allergic skin reaction.
- Specific target organ toxicity - repeated exposure** Based on available data, the classification criteria are not met.
- Specific target organ toxicity - single exposure** Based on available data, the classification criteria are not met.
- Carcinogenicity** Based on available data, the classification criteria are not met.
- Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- Reproductive toxicity** Based on available data, the classification criteria are not met.

Information on likely routes of exposure

- Ingestion** May cause irritation of the gastrointestinal tract.
- Inhalation** May cause irritation to the respiratory system.
- Skin contact** May cause an allergic skin reaction.
 Causes skin irritation.
- Eye contact** Causes serious eye damage.
- Symptoms** Not available.
- Aspiration hazard** Based on available data, the classification criteria are not met.
- Mixture versus substance information** None known.
- Other information** Not available.

SECTION 12: Ecological information

12.1. Toxicity



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Product	Species		Test Results
GENGARD GN8274 (CoolGard TS 17) (CAS Mixture)			
Aquatic			
Crustacea	LC50	Daphnia magna	1489 mg/l, Acute toxicity, 48 hour, (Estimated)
	NOEL	Daphnia magna	1035 mg/l, Acute toxicity, 48 hour, (Estimated)
Fish	LC50	Fathead minnow	429 mg/l, Acute toxicity, 96 hour, (Estimated)
	NOEL	Fathead minnow	300 mg/l, Acute toxicity, 96 hour, (Estimated)

12.2. Persistence and degradability

- COD (mgO2/g) 240
- BOD 5 (mgO2/g) 16 (calculated data)
- BOD 28 (mgO2/g) 39 (calculated data)
- Closed Bottle Test (% Degradation in 28 days) 15 (calculated data)
- TOC (mg C/g) 94

12.3. Bioaccumulative potential Not available.

Partition coefficient n-octanol/water (log Kow)

Maleic acid -0,48

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil Not available.

12.5. Results of PBT and vPvB assessment Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects Nutrients: P= 23 mg/g; N= 1 mg/g

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Contaminated packaging According to Hazardous Waste Regulations.
 EWC (European Waste Code) recommendation : 15 01 10
 15 Waste packaging; absorbents, wiping cloths, filter materials and protective clothing not otherwise specified.
 15 01 Packaging (including separately collected municipal packaging waste).
 15 01 10 Packaging containing residues of or contaminated by dangerous substances.
 Depending on the origin and state of the waste, other EWC numbers may be applicable too.

Disposal methods/information According to Hazardous Waste Regulations.
 EWC (European Waste Code) recommendation : 16 03 05
 16 Wastes not otherwise specified in the list.
 16 03 Off-specification batches and unused products.
 16 03 05 Organic wastes containing dangerous substances.
 Depending on the origin and state of the waste, other EWC numbers may be applicable too.

SECTION 14: Transport information

ADR

- 14.1. UN number UN1760
- 14.2. UN proper shipping name Corrosive liquid, n.o.s. (Phosphoric acid, Polymaleic acid(2-butenedioc acid(z-), homopolymer, Mixture)
- 14.3. Transport hazard class(es)
 - Class 8
 - Subsidiary risk -
 - Tunnel restriction code (E)



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14.4. Packing group III
14.5. Environmental hazards No.
14.6. Special precautions for user Not available.

RID

14.1. UN number UN1760
14.2. UN proper shipping name Corrosive liquid, n.o.s. (Phosphoric acid, Polymaleic acid(2-butenedioc acid(z-), homopolymer, Mixture)
14.3. Transport hazard class(es)
Class 8
Subsidiary risk -
14.4. Packing group III
14.5. Environmental hazards No.
14.6. Special precautions for user Not available.

ADN

14.1. UN number UN1760
14.2. UN proper shipping name Corrosive liquid, n.o.s. (Phosphoric acid, Polymaleic acid(2-butenedioc acid(z-), homopolymer, Mixture)
14.3. Transport hazard class(es)
Class 8
Subsidiary risk -
14.4. Packing group III
14.5. Environmental hazards No.
14.6. Special precautions for user Not available.

IATA

14.1. UN number UN1760
14.2. UN proper shipping name Corrosive liquid, n.o.s. (Phosphoric acid, Polymaleic acid(2-butenedioc acid(z-), homopolymer, Mixture)
14.3. Transport hazard class(es)
Class 8
Subsidiary risk -
14.4. Packing group III
14.5. Environmental hazards No.
ERG Code Not available.
14.6. Special precautions for user Not available.

IMDG

14.1. UN number UN1760
14.2. UN proper shipping name Corrosive liquid, n.o.s. (Phosphoric acid, Polymaleic acid(2-butenedioc acid(z-), homopolymer, Mixture)
14.3. Transport hazard class(es)
Class 8
Subsidiary risk -
14.4. Packing group III
14.5. Environmental hazards
Marine pollutant No.
EmS F-A, S-B
14.6. Special precautions for user Not available.
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code This substance/mixture is not intended to be transported in bulk.



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ADN; ADR; IATA; IMDG; RID



SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I and II, as amended

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 1 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 2 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex I, Part 3 as amended

Not listed.

Regulation (EU) No. 649/2012 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorization, as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work, as amended.

Not listed.

Other EU regulations

Directive 2012/18/EU on major accident hazards involving dangerous substances, as amended

Not listed.

National regulations

Not available.

15.2. Chemical safety assessment

Not available.

NSF Registered and/or meets USDA (according to 1998 guidelines):

Registration No. – 145833

Category Code(s):

G5 Cooling and retort water treatment products

G7 Boiler, steam line treatment products – nonfood contact

Inventory status

Country(s) or region

Europe

Inventory name

European Inventory of Existing Commercial Chemical Substances (EINECS)

On inventory (yes/no)*

Yes



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Country(s) or region	Inventory name	On inventory (yes/no)*
Europe	European List of Notified Chemical Substances (ELINCS)	No

*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).

SECTION 16: Other information

List of abbreviations

COD: Chemical Oxygen Demand
EC-No: European Commission Number
IATA: International Air Transport Association
CAS: Chemical Abstract Service.
CLP: Classification, Labeling and Packaging REGULATION (EC) No 1272/2008 on classification, labeling and packaging of substances and mixtures.
CEN: European Committee for Standardization (Comité Européen de Normalisation).
TWA: Time Weighted Average.
STEL: Short-term Exposure Limit.
LD50: Lethal Dose 50%.
LC50: Lethal Concentration 50%.
EC50: Effective Concentration 50%.
NOEL: No observed effect level.
BOD: Biochemical oxygen demand.
TOC: Total Organic Carbon.
ADR: European agreement concerning the international carriage of dangerous goods by road (Accord européen relatif transport des marchandises dangereuses par route).
ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures).
IMDG Code: International Maritime Dangerous Goods Code.
RID: Regulations concerning the international carriage of dangerous goods by rail (Règlement International concernant le transport de marchandises dangereuses par chemin de fer).
Safety data sheets of raw materials.

References

Information on evaluation method leading to the classification of mixture

The physical, health and environmental hazards of this mixture are assessed by applying the classification criteria for each hazard class or differentiation in Parts 2 to 5 of Annex I to Regulation (EC) No 1272/2008 (CLP).

Full text of any H-statements not written out in full under Sections 2 to 15

H290 May be corrosive to metals.
H302 Harmful if swallowed.
H312 Harmful in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Revision information

SECTION 8: Exposure controls/personal protection: Respiratory protection
Physical & Chemical Properties: Multiple Properties
SECTION 16: Other information: Further information
GHS: Classification

Training information

Provide training on safe handling while considering the type of application and exposure scenarios.

Based on EC Directive / Regulations

(EC) No 1907/2006 (REACH)
(EU) 2015/830
(EC) No 1272/2008
(EU) No 1357/2014

Further information

Correction in Section: 8