Thermal Charge Re-Inhibitor (EGSE and PGSE)

Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Revision date: 11/27/2023

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

1.1. Product identifier

Product form : Mixture

Product name : Thermal Charge Re-Inhibitor (EGSE and PGSE)

SDS ID : 200069

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

Use of the substance/mixture : Antifreeze Corrosion Inhibitor

1.3. Details of the supplier of the safety data sheet

Old World Industries, LLC
3100 Sanders Road
Northbrook, IL 60062 - USA
T (847) 559-2000
www.oldworldind.com

1.4. Emergency telephone number

Emergency number : 800 424 9300 (United States); 00 1 703 527 3887 (International)
Chemtrec

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GHS-US classification

Acute toxicity (oral), Category 4	H302	Harmful if swallowed.
Skin corrosion/irritation, Category 1	H314	Causes severe skin burns and eye damage.

Full text of H-statements: see section 16

2.2. Label elements

GHS US labelling

Hazard pictograms (GHS US) :

GHS05 GHS07

Signal word (GHS US) : Danger

Hazard statements (GHS US) : Harmful if swallowed.
Causes severe skin burns and eye damage.

Precautionary statements (GHS US) : Do not breathe mist, spray, vapors
Wash hands, forearms and face thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective clothing, eye protection, face protection.
If swallowed: Call doctor/physician or poison center if you feel unwell.
If swallowed: rinse mouth. Do NOT induce vomiting.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
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 doctor/physician or poison center
Wash contaminated clothing before reuse.
Store locked up.
Dispose of contents/container to a hazardous or special waste collection point.

2.3. Other hazards

Other hazards which do not result in : No additional information available.

classification

2.4. Unknown acute toxicity (GHS US)

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	% by wt	GHS-US classification
sodium nitrite	(CAS-No.) 7632-00-0	10 – 20	Ox. Sol. 3, H272 Acute Tox. 3 (Oral), H301 Eye Irrit. 2A, H319 Aquatic Acute 1, H400
sodium tolyltriazole	(CAS-No.) 64665-57-2	5 – 10	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319
disodium metasilicate, pentahydrate	(CAS-No.) 10213-79-3	5 – 10	Acute Tox. 4 (Oral), H302 Skin Corr. 1, H314 STOT SE 3, H335
disodium tetraborate, pentahydrate	(N° CAS) 12179-04-3	1 – 3	Eye Irrit. 2, H319 Repr. 2, H361
potassium hydroxide	(CAS-No.) 1310-58-3	1 – 3	Acute Tox. 3 (Oral), H301 Skin Corr. 1, H314

Full text of hazard classes and H-statements : see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : Never give anything by mouth to an unconscious person. IF exposed or concerned: Get medical advice/attention.

First-aid measures after inhalation : If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing. Seek immediate medical advice. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

First-aid measures after skin contact : Immediately call a POISON CENTER/doctor. Take off immediately all contaminated clothing. Wash with plenty of water. Rinse skin with water/shower. Wash contaminated clothing before reuse. If skin irritation occurs: Rinse immediately with plenty of water (for at least 15 minutes).

First-aid measures after eye contact : Rinse immediately with plenty of water for 15 minutes, lifting lower and upper lids. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

First-aid measures after ingestion : If you feel unwell, consult a doctor/medical service. If the person is fully conscious, make him/her drink two glasses of water. Never give an unconscious person anything to drink. Rinse mouth. Do NOT induce vomiting.

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

Symptoms/effects : Causes severe skin burns and eye damage.

Symptoms/effects after ingestion : Swallowing a small quantity of this material will result in serious health hazard.

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

No additional information available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water fog. Fine water spray. Alcohol-resistant foam. Foam. Carbon dioxide. Dry chemical powder. Sand.

Unsuitable extinguishing media : Do not use a heavy water stream. May spread fire.

5.2. Special hazards arising from the substance or mixture

Fire hazard : During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Carbon monoxide. Carbon dioxide.

Reactivity : No dangerous reactions known under normal conditions of use. Thermal decomposition generates : Corrosive vapors.

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire fighting water from entering the environment.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Evacuate unnecessary personnel.

6.1.2. For emergency responders

Protective equipment : Equip cleanup crew with proper protection. Refer to section 8.2.

Emergency procedures : Ventilate area.

6.2. Environmental precautions

Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.

6.4. Reference to other sections

See Heading 8. Exposure controls and personal protection.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor. Do not breathe mist, spray, vapors. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Hygiene measures : Do not eat, drink or smoke when using this product. Wash affected areas thoroughly after handling. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Comply with applicable regulations.

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Heat sources. Keep container closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies. Do not cut, drill, weld, use a blowtorch on, etc. containers even when empty.

Incompatible products : Keep away from strong acids, strong bases and oxidizing agents.

Incompatible materials : Sources of ignition.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

sodium nitrite (7632-00-0)		
Not applicable		

disodium tetraborate, pentahydrate (12179-04-3)		
ACGIH	ACGIH	ACGIH
ACGIH OEL TWA	ACGIH OEL TWA	ACGIH OEL TWA

sodium tolyltriazole (64665-57-2)		
Not applicable		

potassium hydroxide (1310-58-3)		
ACGIH	Local name	Potassium hydroxide
ACGIH	Remark (ACGIH)	URT, eye, & skin irr

disodium metasilicate, pentahydrate (10213-79-3)
Not applicable

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure. Gloves. Safety glasses.

Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or face shield

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Respiratory protection not required in normal conditions. If exposed to levels above exposure limits wear appropriate respiratory protection.

Other information:

Do not eat, drink or smoke during use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Liquid
Color	:	Red
Odor	:	Odorless
Odor threshold	:	No data available
pH	:	13 – 13.5
Relative evaporation rate (butylacetate=1)	:	No data available
Freezing point	:	No data available
Boiling point	:	100 – 102 °C (212 - 215 ºF)
Flash point	:	No data available
Auto-ignition temperature	:	No data available
Decomposition temperature	:	No data available
Flammability	:	No data available
Vapor pressure	:	No data available
Relative vapor density at 20 °C	:	No data available
Specific Gravity	:	1.22
Density	:	1.22 kg/l (10.15 lbs/gal)
Solubility	:	Soluble in water. Water: Complete
Partition coefficient n-octanol/water (Log Pow)	:	No data available
Partition coefficient n-octanol/water (Log Kow)	:	No data available
Viscosity, kinematic	:	No data available

Viscosity, dynamic	:	No data available
Explosive limits	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available

9.2. Other information

Additional information : No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known under normal conditions of use. Thermal decomposition generates : Corrosive vapors.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

No additional information available

10.5. Incompatible materials

Keep away from strong acids, strong bases and oxidizing agents.

10.6. Hazardous decomposition products

Carbon dioxide. Carbon monoxide. Fume. alcohols. Aldehydes. Ethers. Thermal decomposition generates : Corrosive vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

sodium nitrite (7632-00-0)	
LD50 oral rat	180 mg/kg (Rat; Other; Experimental value)
LC50 Inhalation - Rat	5.5 mg/l/4h (Rat; Literature study)
ATE US (oral)	180 mg/kg bodyweight
ATE US (vapors)	5.5 mg/l/4h
ATE US (dust,mist)	5.5 mg/l/4h

disodium tetraborate, pentahydrate (12179-04-3)	
LD50 oral rat	> 2500 mg/kg bodyweight (OECD 401: Acute Oral Toxicity, Rat, Male, Experimental value, Anhydrous form, Oral, 14 day(s))
LD50 dermal rabbit	> 2000 mg/kg bodyweight (FIFRA (40 CFR), 24 h, Rabbit, Male / female, Experimental value, Hydrate form, Dermal, 14 day(s))
LC50 Inhalation - Rat	> 2.04 mg/l (OECD 403: Acute Inhalation Toxicity, 4 h, Rat, Male / female, Experimental value, Inhalation (dust))

sodium tolyltriazole (64665-57-2)	
LD50 oral rat	640 – 1980 mg/kg (Rat)
LD50 dermal rabbit	> 2000 mg/kg (Rabbit)
ATE US (oral)	640 mg/kg bodyweight

potassium hydroxide (1310-58-3)	
LD50 oral rat	273 mg/kg (Rat, Oral)
ATE US (oral)	273 mg/kg bodyweight

disodium metasilicate, pentahydrate (10213-79-3)	
LD50 oral rat	1152 – 1349 mg/kg bodyweight (Rat, Experimental value of similar product, Anhydrous form, Oral, 7 day(s))
LD50 dermal rat	> 5000 mg/kg bodyweight (EPA OPPTS 870.1200: Acute Dermal Toxicity, 24 h, Rat, Male / female, Experimental value of similar product, Anhydrous form, Skin, 14 day(s))
ATE US (oral)	1152 mg/kg bodyweight

Skin corrosion/irritation : Causes severe skin burns.
pH: 13 – 13.5

Serious eye damage/irritation	:	Assumed to cause serious eye damage pH: 13 – 13.5
Respiratory or skin sensitisation	:	Not classified
Germ cell mutagenicity	:	Not classified
Carcinogenicity	:	Not classified
Reproductive toxicity	:	Not classified
STOT-single exposure	:	Not classified
STOT-repeated exposure	:	Not classified
Aspiration hazard	:	Not classified
Potential adverse human health effects and symptoms	:	Based on available data, the classification criteria are not met. Harmful if swallowed.
Symptoms/effects	:	Causes severe skin burns and eye damage.
Symptoms/effects after ingestion	:	Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

disodium tetraborate, pentahydrate (12179-04-3)	
LC50 - Fish [1]	79.70 mg/l (ASTM E729-95: Standard Guide for Conducting Acute Toxicity Tests on Test Materials with Fishes, Macroinvertebrates and Amphibians, 96 h, Pimephales promelas, Static system, Fresh water, Experimental value, Boron)
EC50 - Crustacea [1]	109.00 mg/l (ASTM E729-95: Standard Guide for Conducting Acute Toxicity Tests on Test Materials with Fishes, Macroinvertebrates and Amphibians, 96 h, Ceriodaphnia dubia, Static system, Fresh water, Experimental value of similar product, Boron)
ErC50 algae	52.40 mg/l (OECD 201: Alga, Growth Inhibition Test, 3 day(s), Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value of similar product, Boron)

sodium tolyltriazole (64665-57-2)	
Threshold limit - Algae [1]	26.2 mg/l (EC50; 72 h)

potassium hydroxide (1310-58-3)	
LC50 - Fish [1]	80.00 mg/l (96 h, Gambusia affinis, Pure substance)

disodium metasilicate, pentahydrate (10213-79-3)	
LC50 - Fish [1]	210.00 mg/l (96 h, Brachydanio rerio, Literature study, Anhydrous form)
EC50 - Crustacea [1]	216.00 mg/l (96 h, Daphnia magna, Literature study, Anhydrous form)

12.2. Persistence and degradability

sodium nitrite (7632-00-0)	
Persistence and degradability	Biodegradable in water. Autooxidation in water. No (test)data on mobility of the substance available.

disodium tetraborate, pentahydrate (12179-04-3)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)
ThOD	Not applicable (inorganic)

sodium tolyltriazole (64665-57-2)	
Persistence and degradability	Readily biodegradable in water.

potassium hydroxide (1310-58-3)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

disodium metasilicate, pentahydrate (10213-79-3)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable (inorganic)

disodium metasilicate, pentahydrate (10213-79-3)	
ThOD	Not applicable (inorganic)

12.3. Bioaccumulative potential

sodium nitrite (7632-00-0)	
Partition coefficient n-octanol/water (Log Pow)	-3.70 (Experimental value; OECD 107: Partition Coefficient (n-octanol/water): Shake Flask Method; 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

disodium tetraborate, pentahydrate (12179-04-3)	
Partition coefficient n-octanol/water (Log Pow)	-1.53 (Anhydrous form, Experimental value, EU Method A.8: Partition Coefficient, 22 °C)
Bioaccumulative potential	Not bioaccumulative.

sodium tolyltriazole (64665-57-2)	
Partition coefficient n-octanol/water (Log Pow)	0.66
Bioaccumulative potential	Low potential for bioaccumulation (Log Kow < 4).

potassium hydroxide (1310-58-3)	
Bioaccumulative potential	Not bioaccumulative.

disodium metasilicate, pentahydrate (10213-79-3)	
Bioaccumulative potential	No bioaccumulation data available.

12.4. Mobility in soil

disodium tetraborate, pentahydrate (12179-04-3)	
Surface tension	71.00 mN/m (23 °C, Hydrate form, 0.3 g/l)
Ecology - soil	Low potential for adsorption in soil. May be harmful to plant growth, blooming and fruit formation.

potassium hydroxide (1310-58-3)	
Ecology - soil	No (test)data on mobility of the component(s) available.

disodium metasilicate, pentahydrate (10213-79-3)	
Surface tension	No data available in the literature
Ecology - soil	No (test)data on mobility of the substance available.

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product/Packaging disposal recommendations : Dispose of contents/container to appropriate waste disposal facility, in accordance with local/regional/national/international regulations.

Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description (DOT) : UN1719 Caustic alkali liquids, n.o.s. (Disodium Trioxosilicate, Sodium Tolyltriazole Solution), 8, II

UN-No.(DOT) : UN1719

Proper Shipping Name (DOT) : Caustic alkali liquids, n.o.s.
Disodium Trioxosilicate, Sodium Tolyltriazole Solution

Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

Packing group (DOT) : II - Medium Danger

Hazard labels (DOT)	:	8 - Corrosive

DOT Packaging Non Bulk (49 CFR 173.xxx)	:	202
DOT Packaging Bulk (49 CFR 173.xxx)	:	242
DOT Symbols	:	G - Identifies PSN requiring a technical name
DOT Special Provisions (49 CFR 172.102)	:	B2 - MC 300, MC 301, MC 302, MC 303, MC 305, and MC 306 and DOT 406 cargo tanks are not authorized. IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized. T11 - 6 178.274(d)(2) Normal..... 178.275(d)(3) TP2 - a. The maximum degree of filling must not exceed the degree of filling determined by the following: (image) Where: tr is the maximum mean bulk temperature during transport, tf is the temperature in degrees celsius of the liquid during filling, and a is the mean coefficient of cubical expansion of the liquid between the mean temperature of the liquid during filling (tf) and the maximum mean bulk temperature during transportation (tr) both in degrees celsius. b. For liquids transported under ambient conditions may be calculated using the formula: (image) Where: d15 and d50 are the densities (in units of mass per unit volume) of the liquid at 15 C (59 F) and 50 C (122 F), respectively. TP27 - A portable tank having a minimum test pressure of 4 bar (400 kPa) may be used provided the calculated test pressure is 4 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.
DOT Packaging Exceptions (49 CFR 173.xxx)	:	154
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	:	1 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	:	30 L
DOT Vessel Stowage Location	:	A - The material may be stowed ‘‘on deck’’ or ‘‘under deck’’ on a cargo vessel and on a passenger vessel.
DOT Vessel Stowage Other	:	29 - Stow ‘‘away from’’ ammonium compounds,52 - Stow ‘‘separated from’’ acids
Emergency Response Guide (ERG) Number	:	154
Other information	:	**Reportable Quantity:** Sodium Nitrite 100 lbs (600 lbs of product). **Reportable Quantity:** Sodium Nitrite 100 lbs (600 lbs of product).

Transportation of Dangerous Goods

Refer to current TDG Canada for further Canadian regulations

Transport by sea

In accordance with IMDG / IMO

Transport document description (IMDG)	:	UN 1719 CAUSTIC ALKALI LIQUID, N.O.S. (Disodium Trioxosilicate, Sodium Tolyltriazole Solution), 8, II
UN-No. (IMDG)	:	1719
Proper Shipping Name (IMDG)	:	CAUSTIC ALKALI LIQUID, N.O.S.
Class (IMDG)	:	8 - Corrosive substances
Packing group (IMDG)	:	II - substances presenting medium danger
Limited quantities (IMDG)	:	1 L

Air transport

In accordance with IATA / ICAO

Transport document description (IATA)	:	UN 1719 Caustic alkali liquid, n.o.s. (Disodium Trioxosilicate, Sodium Tolyltriazole Solution), 8, II
UN-No. (IATA)	:	1719

Proper Shipping Name (IATA)	:	Caustic alkali liquid, n.o.s.
Class (IATA)	:	8 - Corrosives
Packing group (IATA)	:	II - Medium Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

sodium nitrite (7632-00-0)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory Subject to reporting requirements of United States SARA Section 313	
CERCLA RQ	100 lb(s)
SARA Section 313 - Emission Reporting	1 %

disodium tetraborate, pentahydrate (12179-04-3)
Not listed on the United States TSCA (Toxic Substances Control Act) inventory

sodium tolyltriazole (64665-57-2)	
EPA TSCA Regulatory Flag	TP - TP - indicates a substance that is the subject of a proposed TSCA section 4 test rule.

15.2. International regulations

CANADA

Thermal Charge Re-Inhibitor (EGSE and PGSE)	
WHMIS Classification	This SDS has been prepared according to the criteria of the Hazardous Products Regulations (HPR) (WHMIS 2015) and the SDS contains all of the information required by the HPR. Applicable GHS information is listed in section 2.2 of this SDS.

sodium tolyltriazole (64665-57-2)
Listed on the Canadian DSL (Domestic Substances List)

15.3. US State regulations

California Proposition 65 - This product does not contain any substance(s) known to the state of California to cause cancer, developmental toxicity and/or reproductive toxicity

sodium nitrite (7632-00-0)
U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List

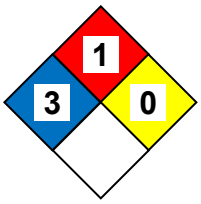
SECTION 16: Other information

Revision date : 11/27/2023

Full text of H-statements:

H272	May intensify fire; oxidizer
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.

NFPA health hazard	:	3 - Materials that, under emergency conditions, can cause serious or permanent injury.
NFPA fire hazard	:	1 - Materials that must be preheated before ignition can occur.
NFPA reactivity	:	0 - Material that in themselves are normally stable, even under fire conditions.



SDS GHS US (GHS HazCom 2012) OWI