



Thermal Charge TEG Reinhibitor

Safety Data Sheet

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

Revision date: 05/01/2020

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

1.1. Product identifier

Product form : Mixture
Product name : Thermal Charge TEG Reinhibitor
Product code : TCR000; TCR001; TCR005

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

Use of the substance/mixture : Corrosion inhibitors

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 1B	H314	Causes severe skin burns and eye damage.
Carcinogenicity, Category 2	H351	Suspected of causing cancer.
Specific target organ toxicity — Single exposure, Category 3, Respiratory tract irritation	H335	May cause respiratory irritation.
Specific target organ toxicity — Repeated exposure, Category 2	H373	May cause damage to organs through prolonged or repeated exposure.

Full text of H statements : see section 16

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) :

Danger

Hazard statements (GHS-US) :

Harmful if swallowed.
Causes severe skin burns and eye damage.
May cause respiratory irritation.
Suspected of causing cancer.
May cause damage to organs through prolonged or repeated exposure.

Precautionary statements (GHS-US) :

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe mist, vapors, spray
Wash hands, forearms and face thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective clothing, eye protection, face protection.
If swallowed: rinse mouth. Do NOT induce vomiting
If swallowed: Immediately call a doctor, a POISON CENTER
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with

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Precautionary statements (GHS-US) *continued* : 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.
If exposed or concerned: Get medical advice/attention.
Wash contaminated clothing before reuse.
Store in a well-ventilated place. Keep container tightly closed.
Store locked up.
Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

No data available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	% by wt	GHS-US classification
water	(CAS-No.) 7732-18-5	<= 50	Not classified
monoethanolamine borate	(CAS-No.) 10377-81-8	30 - 35	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335
diethanolamine	(CAS-No.) 111-42-2	10 - 15	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Dam. 1, H318 Carc. 2, H351 STOT RE 2, H373
2-aminoethanol	(CAS-No.) 141-43-5	5 - 10	Acute Tox. 4 (Oral), H302 Acute Tox. 4 (Dermal), H312 Acute Tox. 4 (Inhalation), H332 Acute Tox. 4 (Inhalation:dust,mist), H332 Skin Corr. 1B, H314 STOT SE 3, H335

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 : IF exposed or concerned: Get medical advice/attention. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible). Suspected of causing cancer.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor. Call a POISON CENTER/doctor if you feel unwell.

First-aid measures after skin contact : Take off immediately all contaminated clothing. Rinse skin with water/shower. Immediately call a POISON CENTER/doctor.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.

First-aid measures after ingestion : Rinse mouth. Do NOT induce vomiting. Call a POISON CENTER/doctor if you feel unwell. Immediately call a POISON CENTER/doctor.

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

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

Symptoms/effects after inhalation : May cause respiratory irritation.

Symptoms/effects after skin contact : Causes severe burns.

Symptoms/effects after eye contact : Serious damage to eyes.

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

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Reactivity : 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.
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. Avoid contact during pregnancy/while nursing. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area.
Hygiene measures : Do not eat, drink or smoke when using this product. Wash hands, forearms and face thoroughly after handling.

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 : Keep container tightly closed.
Incompatible products : Strong bases. Strong acids.
Incompatible materials : Sources of ignition. Direct sunlight.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

water (7732-18-5)		
Not applicable		
monoethanolamine borate (10377-81-8)		
Not applicable		
diethanolamine (111-42-2)		
ACGIH	Local name	Diethanolamine

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diethanolamine (111-42-2)		
ACGIH	ACGIH TWA (mg/m ³)	1 mg/m ³
ACGIH	Remark (ACGIH)	Liver & kidney damage
OSHA	OSHA PEL (TWA) (mg/m ³)	15 mg/m ³ (8 Hr)
OSHA	OSHA PEL (TWA) (ppm)	3 ppm (8 Hr)
2-aminoethanol (141-43-5)		
ACGIH	Local name	Ethanolamine
ACGIH	ACGIH TWA (ppm)	3 ppm
ACGIH	ACGIH STEL (ppm)	6 ppm
ACGIH	Remark (ACGIH)	Eye & skin irritant
OSHA	OSHA PEL (TWA) (mg/m ³)	6 mg/m ³
OSHA	OSHA PEL (TWA) (ppm)	3 ppm

8.2. Appropriate engineering controls

No additional information available

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Corrosionproof clothing. Protective goggles. Gloves.

Hand protection:

Wear protective gloves.

Eye protection:

Chemical goggles or face shield

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

Wear appropriate mask



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	: Yellow
Odor	: characteristic
Odor threshold	: No data available
pH	: 10.5 (1.0% by volume)
Reserve Alkalinity	: 8 ml (1.0% by volume)
Relative evaporation rate (butylacetate=1)	: No data available
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available

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Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Specific Gravity	: 1.25
Density	: 1.25 kg/l (10.5 lbs.gal)
Solubility	: Water: Complete
Log Pow	: No data available
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

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Thermal decomposition generates : Corrosive vapors.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

None under normal use.

10.4. Conditions to avoid

Direct sunlight. Extremely high or low temperatures.

10.5. Incompatible materials

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

10.6. Hazardous decomposition products

Fume. Carbon monoxide. Carbon dioxide. Thermal decomposition generates : Corrosive vapors.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

monoethanolamine borate (10377-81-8)	
ATE US (oral)	500 mg/kg bodyweight
diethanolamine (111-42-2)	
LD50 oral rat	1600 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral, 14 day(s))
ATE US (oral)	620 mg/kg bodyweight
ATE US (dermal)	7640 mg/kg bodyweight
2-aminoethanol (141-43-5)	
LD50 oral rat	1515 mg/kg bodyweight (Equivalent or similar to OECD 401, Rat, Male / female, Experimental value, Oral)
LD50 dermal rabbit	1018 mg/kg (24 h, Rabbit, Inconclusive, insufficient data, Dermal)
LC50 inhalation rat (mg/l)	> 1210 mg/l (Mouse)
ATE US (oral)	500 mg/kg bodyweight
ATE US (dermal)	1100 mg/kg bodyweight
ATE US (gases)	4500 ppmv/4h
ATE US (vapors)	11 mg/l/4h
ATE US (dust,mist)	1.5 mg/l/4h

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Skin corrosion/irritation	: Causes severe skin burns and eye damage. pH: 10.5 (1.0% by volume)
Serious eye damage/irritation	: Serious eye damage, category 1, implicit pH: 10.5 (1.0% by volume)
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Suspected of causing cancer.
Reproductive toxicity	: Not classified
STOT-single exposure	: May cause respiratory irritation.
STOT-repeated exposure	: May cause damage to organs through prolonged or repeated exposure.
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. Causes damage to organs.
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after skin contact	: Causes severe burns.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

diethanolamine (111-42-2)	
LC50 fish 1	460.00 mg/l (96 h, Oncorhynchus mykiss, Static system, Fresh water, Experimental value, Nominal concentration)
EC50 Daphnia 1	30.1 - 89.9 mg/l (ASTM E729-80, 48 h, Ceriodaphnia dubia, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 (algae)	9.50 mg/l (EPA 600/9-78-018, 72 h, Pseudokirchneriella subcapitata, Static system, Fresh water, Experimental value, Nominal concentration)
2-aminoethanol (141-43-5)	
LC50 fish 1	150.00 mg/l (96 h, Salmo gairdneri, Fresh water)
EC50 Daphnia 1	140.00 mg/l (24 h, Daphnia magna)

12.2. Persistence and degradability

diethanolamine (111-42-2)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.22 g O ₂ /g substance
Chemical oxygen demand (COD)	1.52 g O ₂ /g substance
ThOD	2.13 g O ₂ /g substance
2-aminoethanol (141-43-5)	
Persistence and degradability	Biodegradable in the soil. Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.80 g O ₂ /g substance
Chemical oxygen demand (COD)	1.34 g O ₂ /g substance
ThOD	2.49 g O ₂ /g substance
BOD (% of ThOD)	0.32

12.3. Bioaccumulative potential

diethanolamine (111-42-2)	
BCF fish 1	3.16 l/kg (BCFBAF v3.01, Estimated value, Fresh weight)
Log Pow	-2.18 - -1.43 (Experimental value)

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diethanolamine (111-42-2)	
Bioaccumulative potential	Not bioaccumulative.
2-aminoethanol (141-43-5)	
Log Pow	-1.91
Bioaccumulative potential	Not bioaccumulative.

12.4. Mobility in soil

diethanolamine (111-42-2)	
Log Koc	0.98 - 1 (log Koc, Calculated value)
Ecology - soil	Highly mobile in soil.
2-aminoethanol (141-43-5)	
Surface tension	0.05 N/m
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 in a safe manner in accordance with local/national regulations.
Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN2491 Ethanolamine solutions, 8, III
UN-No.(DOT) : UN2491
Proper Shipping Name (DOT) : Ethanolamine solutions
Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136
Packing group (DOT) : III - Minor Danger
Hazard labels (DOT) : 8 - Corrosive



DOT Packaging Non Bulk (49 CFR 173.xxx) : 203
DOT Packaging Bulk (49 CFR 173.xxx) : 241
DOT Packaging Exceptions (49 CFR 173.xxx) : 154
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27) : 5 L
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75) : 60 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 : 52 - Stow "separated from" acids
Emergency Response Guide (ERG) Number : 153
Other information : No supplementary information available.

Refer to current TDG Canada for further Canadian regulations

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SECTION 15: Regulatory information

15.1. US Federal regulations


Thermal Charge TEG Reinhibitor	
EPA TSCA Regulatory Flag	United States inventory (TCSA 8b): All components are listed or exempt
SARA Section 311/312 Hazard Classes	Refer to Section 2 for the OSHA hazard classification
water (7732-18-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
monoethanolamine borate (10377-81-8)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	
diethanolamine (111-42-2)	
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)
2-aminoethanol (141-43-5)	
Listed on the United States TSCA (Toxic Substances Control Act) inventory	

15.2. International regulations

CANADA

Thermal Charge TEG Reinhibitor	
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.
monoethanolamine borate (10377-81-8)	
Listed on the Canadian DSL (Domestic Substances List)	

15.3. US State regulations

 **WARNING:** This product can expose you to diethanolamine, which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

diethanolamine (111-42-2)					
U.S. - California - Proposition 65 - Carcinogens List	U.S. - California - Proposition 65 - Developmental Toxicity	U.S. - California - Proposition 65 - Reproductive Toxicity - Female	U.S. - California - Proposition 65 - Reproductive Toxicity - Male	No significant risk level (NSRL)	Maximum allowable dose level (MADL)
Yes	No	No	No		

diethanolamine (111-42-2)	
U.S. - Massachusetts - Right To Know List U.S. - New Jersey - Right to Know Hazardous Substance List U.S. - Pennsylvania - RTK (Right to Know) List	
2-aminoethanol (141-43-5)	
U.S. - New Jersey - Right to Know Hazardous Substance List	

SECTION 16: Other information

Revision date : 05/01/2020
Other information : None.

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Full text of H-statements:

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H373	May cause damage to organs through prolonged or repeated exposure.

NFPA health hazard

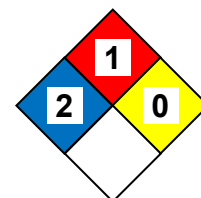
: 2 - Materials that, under emergency conditions, can cause temporary incapacitation or residual injury.

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

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