



SAFETY DATA SHEET

Revision Date 01/30/2015

REVISION NUMBER: 2

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product name RLT-241, Steam Condensate Corrosion Inhibitor

Other means of identification

Product code 117682

UN/ID No. 3267

Synonyms NONE

Recommended use of the chemical and restrictions on use

Recommended Use Corrosion inhibitor.

Uses advised against No information available

Details of the supplier of the safety data sheet

Manufacturer Address

Rochester Midland Corporation
155 Paragon Drive
Rochester, New York 14624 USA

Importer

Rochester Midland Limited
5353 John Lucas Drive
Suite 103
Burlington, ON L7L 6G5
Canada

Emergency telephone number

EMERGENCY TELEPHONE INFOTRAC: 1-800-535-5053
OUTSIDE U.S.: +1-352-323-3500
CANUTEC: 613-996-6666

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

This chemical is considered hazardous by the WHMIS 2015 Hazardous Products Regulation.

Skin corrosion/irritation	Category 1
Serious eye damage/eye irritation	Category 1
Reproductive Toxicity	Category 2
Flammable liquids	Category 4
Corrosive to metals	Category 1

Label elements

Emergency Overview

DANGER

Hazard statements

Causes severe skin burns and eye damage

Suspected of damaging fertility or the unborn child

COMBUSTIBLE LIQUID

May be corrosive to metals

**Appearance** Light amber liquid.**Physical state** Liquid**Odor** Slight Amine**Precautionary Statements - Prevention**

Obtain special instructions before use
 Do not handle until all safety precautions have been read and understood
 Use personal protective equipment as required
 Do not breathe dust/fume/gas/mist/vapors/spray
 Wash face, hands and any exposed skin thoroughly after handling
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking
 Keep only in original container

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
 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 ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Immediately call a POISON CENTER or doctor/physician
 IF SWALLOWED: Rinse mouth. DO NOT induce vomiting
 In case of fire: Use CO₂, dry chemical, or foam for extinction
 Absorb spillage to prevent material damage

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep cool
 Store in corrosive resistant container

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

No information available

Other Information

- May be harmful if swallowed
- May be harmful in contact with skin

3. COMPOSITION/INFORMATION ON INGREDIENTS

PRODUCT COMPOSITION	CAS No.	%	TRADE SECRET
CYCLOHEXYLAMINE	108-91-8	10 - 15	*
MORPHOLINE	110-91-8	1 - 10	*
Diethylaminoethanol (DEAE)	100-37-8	20	*

*The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

First aid measures

General advice	Immediately call a POISON CENTER or doctor/physician.
Eye contact	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.
Skin contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.
Inhalation	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.
Ingestion	IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.

Most important symptoms and effects, both acute and delayed

Symptoms No information available.

Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media

Dry chemical, CO₂, sand, earth, water spray or regular foam.

Unsuitable extinguishing media Caution: Use of water spray when fighting fire may be inefficient.

Specific hazards arising from the chemical

No information available.

Explosion data

Sensitivity to Mechanical Impact NONE.

Sensitivity to Static Discharge NONE.

Protective equipment and precautions for firefighters

Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Cool exposed containers with water spray.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions Ensure adequate ventilation, especially in confined areas.

Environmental precautions

Environmental precautions See Section 12 for additional ecological information.

Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Dike to contain. Pick up with absorbant material. Put in suitable container for disposal.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Keep container closed when not in use. Do not inhale vapors. Avoid contact with eyes, skin and clothing. DO NOT pressurize, weld, or heat containers. Do not reuse container. Read and follow label instructions. Keep out of reach of children.

Conditions for safe storage, including any incompatibilities**Storage Conditions**

Keep containers tightly closed in a dry, cool and well-ventilated place. Do not store near heat, sparks or flame. Observe proper grounding procedures to prevent fire hazard from static accumulation and discharge. Vapors are heavier than air and may tend to collect in low or poorly ventilated areas resulting in possible fire and/or inhalation hazard. Empty containers may retain product residue, follow SDS/label precautions even after container is emptied.

Incompatible materials

Do not mix with: Acids. Strong alkalis. Hypochlorites (bleach.). Strong oxidents, such as nitric acid, or hypochlorites. Avoid contact with aluminum, zinc, other soft metals or galvanized metals.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters**Exposure Guidelines**

PRODUCT COMPOSITION	ACGIH TLV	OSHA PEL	NIOSH IDLH
CYCLOHEXYLAMINE 108-91-8	TWA: 10 ppm	(vacated) TWA: 10 ppm (vacated) TWA: 40 mg/m ³	-
MORPHOLINE 110-91-8	TWA: 20 ppm	(vacated) STEL: 30 ppm (vacated) STEL: 105 mg/m ³ S* (vacated) S* (vacated) TWA: 20 ppm (vacated) TWA: 70 mg/m ³ TWA: 20 ppm TWA: 70 mg/m ³	1400 ppm
Diethylaminoethanol (DEAE) 100-37-8	TWA: 2 ppm	S* (vacated) S* (vacated) TWA: 10 ppm (vacated) TWA: 50 mg/m ³ TWA: 10 ppm TWA: 50 mg/m ³	100 ppm

Appropriate engineering controls**ENGINEERING CONTROLS**

General mechanical and/or local exhaust as needed to meet exposure limits if mist in air. Showers. Eyewash stations.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses or goggles to protect against exposure.

Skin and body protection

Chemical resistant gloves are recommended to minimize skin contact. Appropriate protective clothing as needed to prevent skin contact. It is the responsibility of the end user of this product to determine level of PPE required that is consistent with safe use of this product.

RESPIRATORY PROTECTION

NIOSH approved respirator if spray mist in air causes irritation.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Physical state
Appearance
Color

Liquid
Light amber liquid.
No information available

Odor
Odor threshold

Slight Amine
No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	12.2	
Melting point/freezing point	No information available	
Boiling point / boiling range	No information available	
Flash point	61.7 °C / 143 °F	Tag Closed Cup
Evaporation rate	1.26	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper flammability limit:	11.7	
Lower flammability limit:	1.5	
Vapor pressure	10	mm Hg @ 22.2 °C
Vapor density	> 1	
Specific gravity	0.985	
Water solubility	No information available	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Kinematic viscosity	No information available	
Dynamic viscosity	No information available	
Explosive properties	No information available	
Oxidizing properties	No information available	

Other Information

Softening point	No information available
VOC (EPA METH.24) (G/L):	No information available
Density	No information available
Bulk density	No information available

10. STABILITY AND REACTIVITY

REACTIVITY

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

CONDITIONS TO AVOID

Keep away from heat, sparks, and flame. Extremes of temperature and direct sunlight.

Incompatible materials

Do not mix with: Acids. Strong alkalis. Hypochlorites (bleach.). Strong oxidents, such as nitric acid, or hypochlorites. Avoid contact with aluminum, zinc, other soft metals or galvanized metals.

Hazardous Decomposition Products

Ammonia. Oxides of Carbon. Oxides of Nitrogen. Oxides of mercury. Toxic carbon-nitrogen compounds.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information	Causes severe skin burns and eye damage. May be harmful if swallowed.
Inhalation	Causes burns.
Eye contact	Corrosive to the eyes and may cause severe damage including blindness.

Skin contact Causes burns. May be harmful in contact with skin.

Ingestion Causes burns. May be harmful if swallowed.

PRODUCT COMPOSITION	Oral LD50	Dermal LD50	Inhalation LC50
CYCLOHEXYLAMINE 108-91-8	= 11 mg/kg (Rat)	= 320 mg/kg (Rabbit)	-
MORPHOLINE 110-91-8	= 1050 mg/kg (Rat)	= 310 mg/kg (Rabbit)	= 8000 ppm (Rat) 8 h
Diethylaminoethanol (DEAE) 100-37-8	= 1300 mg/kg (Rat)	= 1260 µL/kg (Rabbit)	-

Information on toxicological effects

Symptoms No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Sensitization No information available.

Germ cell mutagenicity No information available.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

PRODUCT COMPOSITION	ACGIH	IARC	NTP	OSHA
CYCLOHEXYLAMINE 108-91-8	-	Group 3	-	-
MORPHOLINE 110-91-8	-	Group 3	-	-

Reproductive Toxicity Possible risk of impaired fertility. Possible risk of harm to the unborn child.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document .

ATEmix (oral) 2491 mg/kg

ATEmix (dermal) 3178 mg/kg

ATEmix (inhalation-dust/mist) 6 mg/l

12. ECOLOGICAL INFORMATION

Ecotoxicity

0% of the mixture consists of component(s) of unknown hazards to the aquatic environment

PRODUCT COMPOSITION	Algae/aquatic plants	Fish	Crustacea
CYCLOHEXYLAMINE 108-91-8	20: 96 h Pseudokirchneriella subcapitata mg/L EC50 20: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	470: 96 h Brachydanio rerio mg/L LC50 static 44 - 90: 96 h Oncorhynchus mykiss mg/L LC50	-
MORPHOLINE 110-91-8	28: 96 h Pseudokirchneriella subcapitata mg/L EC50 static	350: 96 h Lepomis macrochirus mg/L LC50 static 375 - 460: 96 h Oncorhynchus mykiss mg/L LC50 1000: 96 h Brachydanio rerio mg/L LC50 static	-
Diethylaminoethanol (DEAE) 100-37-8	30: 72 h Desmodesmus subspicatus mg/L EC50	1660 - 1920: 96 h Pimephales promelas mg/L LC50 flow-through	83.6: 48 h Daphnia magna Straus mg/L EC50

Persistence and degradability

No information available.

Bioaccumulation

PRODUCT COMPOSITION	Partition coefficient
CYCLOHEXYLAMINE 108-91-8	1.2
MORPHOLINE 110-91-8	-2.55
Diethylaminoethanol (DEAE) 100-37-8	0.21

Other adverse effects No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated packaging Do not reuse container.

14. TRANSPORT INFORMATION

DEPT. OF TRANSPORTATION

UN/ID No. 3267
 Proper shipping name CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., (CYCLOHEXYLAMINE, DIETHYLAMINOETHANOL)
 Hazard Class 8
 Packing Group II
 Description 5 Liters (1.3 Gallons) and Less may be Classed as LTD. QTY.

TDG

UN/ID No. 3267
 Proper shipping name CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S., (CYCLOHEXYLAMINE, DIETHYLAMINOETHANOL)
 Hazard Class 8
 Packing Group II
 Description 1 Liter (0.26 Gallons) and Less may be classed as LTD. QTY.

15. REGULATORY INFORMATION

International Inventories

TSCA Complies
 DSL/NDL Complies
 EINECS/ELINCS Complies
 ENCS Complies
 IECSC Complies
 KECL Complies
 PICCS Complies

AICS

Complies

Legend:

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

SARA 311/312 Hazard Categories

ACUTE HEALTH HAZARD	YES
CHRONIC HEALTH HAZARD	YES
FIRE HAZARD	YES
Sudden release of pressure hazard	No
REACTIVE HAZARD	YES

CWA (Clean Water Act)

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

PRODUCT COMPOSITION	Hazardous Substances RQs (in LBS)	U.S. - CERCLA/SARA - Section 302 Extremely Hazardous Substances TPQs
CYCLOHEXYLAMINE 108-91-8	-	10000

US State Regulations**California Proposition 65**

This product does not contain any Proposition 65 chemicals

U.S. State Right-to-Know Regulations

PRODUCT COMPOSITION	NJRTK:	MARTK:	PARTK:
CYCLOHEXYLAMINE 108-91-8	0576	Listed	Listed
MORPHOLINE 110-91-8	1315	Listed	Listed
Diethylaminoethanol (DEAE) 100-37-8	Listed	Listed	Listed

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION**NFPA**

Health hazards 2

Flammability 2

Instability 0

Physical and Chemical Properties ALKALI

HMIS

Health hazards 2

Flammability 2

Physical hazards 0

Personal protection B

Prepared By

EH&S DEPARTMENT

Revision Date

01/30/2015

Revision Note

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.

***** END OF SDS *****