

SECTION 1: Identification

1.1. Identification

Product form : Mixtures
 Name : Zerust[®] Axxanol[™] 33
 Synonyms : Axxanol 33
 Other means of identification : EU SDS: 10-002

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

Northern Technologies International Corporation
 4201 Woodland Road
 Circle Pines, MN 55014 - United States
 T +1 763-225-6600 - F +1 763-225-6645
msds@ntic.com - www.zerust.com

1.4. Emergency telephone number

Emergency number : Carechem +1 202 464 2554; Outside US/Canada +44 1865 407333 (24 hours; 7 days/week)

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

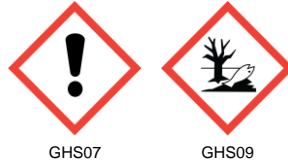
GHS-US classification

Skin corrosion/irritation, Category 2	Causes skin irritation
Serious eye damage/eye irritation, Category 2A	Causes serious eye irritation
Hazardous to the aquatic environment — Chronic Hazard, Category 2	Toxic to aquatic life with long lasting effects

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



Signal word (GHS-US) : Warning

Hazard statements (GHS-US) : Causes skin irritation
 Causes serious eye irritation
 Toxic to aquatic life with long lasting effects

Precautionary statements (GHS-US) : Wash hands, forearms and face thoroughly after handling
 Avoid release to the environment
 Wear eye protection, protective gloves
 If on skin: Wash with plenty of soap, water
 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Specific treatment (see First aid measures on this label)
 If skin irritation occurs: Get medical advice/attention
 If eye irritation persists: Get medical advice/attention
 Take off contaminated clothing and wash it before reuse
 Collect spillage
 Dispose of contents/container to State or local regulations

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS US)

Not applicable

Zerust® Axxanol™ 33

Safety Data Sheet

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

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Distillates, petroleum, hydrotreated heavy naphthenic 1-Butanol, 3-methoxy-3-methyl- Oleylamine	(CAS No) 64742-52-5	<93	Not classified
	(CAS No) 56539-66-3	<=5	Eye Irrit. 2A, H319
	(CAS No) 112-90-3	<2.0	Acute Tox. 4 (Oral), H302 Skin Corr. 1B, H314 STOT SE 3, H335 STOT RE 2, H373 Asp. Tox. 1, H304 Aquatic Acute 1, H400 Aquatic Chronic 1, H410
Hexanoic acid, 2-ethyl-, zinc salt (2:1)	(CAS No) 136-53-8	<0.5	Eye Irrit. 2A, H319

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 you feel unwell, seek medical advice (show the label where possible).
- First-aid measures after inhalation : Assure fresh air breathing. Allow the victim to rest.
- First-aid measures after skin contact : Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs: Wash with plenty of soap and water, Get medical advice/attention.
- First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
- First-aid measures after ingestion : Rinse mouth. Do not induce vomiting. Call a poison center or a doctor if you feel unwell.

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

- Symptoms/injuries after skin contact : Causes skin irritation.
- Symptoms/injuries after eye contact : Causes serious eye irritation.

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

No additional information available

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

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

5.2. Special hazards arising from the substance or mixture

- Reactivity : The product is non-reactive under normal conditions of use, storage and transport.

5.3. Advice for firefighters

- 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

- Protective equipment : Refer to protective measures listed in Sections 7 and 8.
- 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. Avoid release to the environment.

Zerust® Axxanol™ 33

Safety Data Sheet

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

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. Dispose of in accordance with relevant local regulations.

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 adequate ventilation to minimize dust and/or vapour concentrations.

Hygiene measures : Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Keep only in the original container in a cool, well ventilated place away from : Incompatible materials. Keep container closed when not in use.

Incompatible products : Strong acids. Strong bases.

Storage temperature : 0 - 32 °C

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Additional information : Contains no substances with occupational exposure limits

8.2. Exposure controls

Appropriate engineering controls : Provide adequate general and local exhaust ventilation.

Personal protective equipment : Gloves. Protective goggles. Avoid all unnecessary exposure.



Hand protection : Wear protective gloves. Chemical resistant gloves (according to European standard NF EN 374 or equivalent).

Eye protection : Chemical goggles or safety glasses.

Skin and body protection : Wear suitable protective clothing.

Respiratory protection : During spraying wear suitable respiratory equipment. Full face piece respirator (organic vapours). In case of inadequate ventilation wear 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
Appearance : Viscous.
Colour : amber.
Odour : petroleum-like odour.
Odour threshold : No data available
pH : No data available
Relative evaporation rate (butylacetate=1) : No data available
Melting point : No data available
Freezing point : No data available
Boiling point : No data available
Flash point : > 90 °C ASTM D93B
Auto-ignition temperature : No data available
Decomposition temperature : No data available
Flammability (solid, gas) : No data available
Vapour pressure : No data available

Zerust® Axxanol™ 33

Safety Data Sheet

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

Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Density	: 0.89 g/cm ³
Solubility	: No data available
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: 20 - 40 cP @ 73F, #61, 50 RPM
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 1 - 6 vol %

9.2. Other information

VOC content : 1.03 lb/gal

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Strong acids. Strong bases.

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Not classified

Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)	
LD50 oral rat	> 5000 mg/kg
LD50 dermal rabbit	> 2000 mg/kg
Oleylamine (112-90-3)	
LD50 oral rat	1950 mg/kg
ATE US (oral)	500.000 mg/kg bodyweight
Hexanoic acid, 2-ethyl-, zinc salt (2:1) (136-53-8)	
LD50 oral rat	3700 mg/kg
LD50 dermal rabbit	> 5000 mg/kg
LC50 inhalation rat (mg/l)	> 23.2 mg/l (Exposure time: 1 h)
ATE US (oral)	3700.000 mg/kg bodyweight

Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye irritation.
Respiratory or skin sensitisation	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified

Reproductive toxicity : Not classified
Specific target organ toxicity (single exposure) : Not classified

Zerust® Axxanol™ 33

Safety Data Sheet

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

Specific target organ toxicity (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.
Symptoms/injuries after skin contact	: Causes skin irritation.
Symptoms/injuries after eye contact	: Causes serious eye irritation.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - water : Toxic to aquatic life with long lasting effects.

Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)

LC50 fish 1	> 5000 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss)
EC50 Daphnia 1	> 1000 mg/l (Exposure time: 48 h - Species: Daphnia magna)

Oleylamine (112-90-3)

LC50 fish 1	0.11 mg/l
EC50 Daphnia 1	0.011 mg/l
EC50 other aquatic organisms 2	0.03 mg/l

12.2. Persistence and degradability

Zerust® Axxanol™ 33

Persistence and degradability	May cause long-term adverse effects in the environment.
-------------------------------	---

1-Butanol, 3-methoxy-3-methyl- (56539-66-3)

Persistence and degradability	Not established.
-------------------------------	------------------

Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)

Persistence and degradability	Not established.
-------------------------------	------------------

12.3. Bioaccumulative potential

Zerust® Axxanol™ 33

Bioaccumulative potential	Not established.
---------------------------	------------------

1-Butanol, 3-methoxy-3-methyl- (56539-66-3)

Bioaccumulative potential	Not established.
---------------------------	------------------

Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)

Bioaccumulative potential	Not established.
---------------------------	------------------

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Other information : Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods	: Recycle or dispose of in compliance with current legislation.
Waste disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

In accordance with DOT (49 CFR 100-185): Not regulated

Zerust® Axxanol™ 33

Safety Data Sheet

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

Other information : No supplementary information available.

Transport by sea

Proper Shipping Name (IMDG) : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Proper Shipping Name - Addition (IMDG) : Oleylamine
UN-No. (IMDG) : 3082
Class (IMDG) : 9 - Miscellaneous dangerous substances and articles
Packing group (IMDG) : III - substances presenting low danger
Limited quantities (IMDG) : 5 L
Marine pollutant : Yes



Air transport

Proper Shipping Name (IATA) : Environmentally hazardous substance, liquid, n.o.s.
Proper Shipping Name - Addition (IATA) : Oleylamine
UN-No. (IATA) : 3082
Class (IATA) : 9 - Miscellaneous Dangerous Goods
Packing group (IATA) : III - Minor Danger

SECTION 15: Regulatory information

15.1. US Federal regulations

1-Butanol, 3-methoxy-3-methyl- (56539-66-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Oleylamine (112-90-3)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Hexanoic acid, 2-ethyl-, zinc salt (2:1) (136-53-8)

Listed on the United States TSCA (Toxic Substances Control Act) inventory

Zerust® Axxanol™ 33

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

15.2. International regulations

CANADA

1-Butanol, 3-methoxy-3-methyl- (56539-66-3)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class D Division 2 Subdivision B - Toxic material causing other toxic effects

Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)

Listed on the Canadian DSL (Domestic Substances List)

Oleylamine (112-90-3)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification

Class E - Corrosive Material

Hexanoic acid, 2-ethyl-, zinc salt (2:1) (136-53-8)

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Zerust® Axxanol™ 33

Safety Data Sheet

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

1-Butanol, 3-methoxy-3-methyl- (56539-66-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Distillates, petroleum, hydrotreated heavy naphthenic (64742-52-5)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Oleylamine (112-90-3)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

Hexanoic acid, 2-ethyl-, zinc salt (2:1) (136-53-8)

Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

15.3. US State regulations

No additional information available

SECTION 16: Other information

Revision date : 3/7/2017

Other information : None.

Full text of H-statements:

H302	Harmful if swallowed
H304	May be fatal if swallowed and enters airways
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H319	Causes serious eye irritation
H335	May cause respiratory irritation
H373	May cause damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
H411	Toxic to aquatic life with long lasting effects

DISCLAIMER OF LIABILITY The information in this SDS was obtained from sources which we believe are reliable. However, the information is provided without any warranty, express or implied, regarding its correctness. The conditions or methods of handling, storage, use or disposal of the product are beyond our control and may be beyond our knowledge. For this and other reasons, we do not assume responsibility and expressly disclaim liability for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product. This SDS was prepared and is to be used only for this product. If the product is used as a component in another product, this SDS information may not be applicable