

SECTION 1: Identification

1.1. Identification

Product form : Mixture
Trade name : Zerion® FVS Series
Synonyms : Zerion FVS, Zerion FVS-B15, Zerion FVS-B165, Zerion® FVS-B Series, Zerion® FVS Demo Kit, Zerion® FVS Sleeve Assembly, Zerion® FVS-S10 Mesh Sleeve, Zerion® FVS-S15 Dual Sleeve Assembly, Zerion® FVS S-2 Packet
Other means of identification : EU SDS: 10-059

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
P.O. Box 69
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

Acute toxicity (oral), Category 4 Harmful if swallowed
Skin corrosion/irritation, Category 2 Causes skin irritation
Serious eye damage/eye irritation, Category 2 Causes serious eye irritation

2.2. Label elements

GHS-US labelling

Hazard pictograms (GHS-US) :



GHS07

Signal word (GHS-US) : Warning
Hazard statements (GHS-US) : Harmful if swallowed
Causes skin irritation
Causes serious eye irritation
Precautionary statements (GHS-US) : Wash hands thoroughly after handling
Do not eat, drink or smoke when using this product
Wear eye protection, protective clothing, protective gloves, face protection
If swallowed: Call a doctor, a POISON CENTER if you feel unwell
If on skin: Wash with plenty of soap and water
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
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

2.3. Other hazards

Other hazards not contributing to the classification : May form combustible dust concentrations in air. (DURING FOGGING APPLICATION).

2.4. Unknown acute toxicity (GHS US)

Not applicable

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	GHS-US classification
Ammonium benzoate	(CAS-No.) 1863-63-4	50 - 80	Acute Tox. 4 (Oral), H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319
Inorganic carbon salt*	(CAS-No.) Trade Secret	20 - 50	Eye Irrit. 2, H319

*Chemical name, CAS number and/or exact concentration have been withheld as a trade secret

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: Get medical advice/attention.
First-aid measures after eye contact	: If eye irritation persists: Get medical advice/attention. Rinse immediately with plenty of water.
First-aid measures after ingestion	: Immediately call a POISON CENTER or doctor/physician. Do not induce vomiting. Rinse mouth.

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

Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
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 : Foam. Dry powder. Carbon dioxide. Water spray.

5.2. Special hazards arising from the substance or mixture

Fire hazard	: Avoid dust formation.
Explosion hazard	: May form combustible dust concentrations in air.
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.

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6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Take up mechanically (sweeping, shovelling) and collect in suitable container for disposal. Avoid dispersal of dust in the air (ie, clearing dust surfaces with compressed air). Clean contaminated surfaces with an excess of water. 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

Additional hazards when processed : Dust may form flammable and explosive mixture with air.
Precautions for safe handling : Wear personal protective equipment. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Do not eat, drink or smoke when using this product. Provide adequate ventilation to minimize dust and/or vapour concentrations. Avoid dust formation.
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

Storage conditions : Keep only in original container. Store in a dry place. Store at room temperature. Store in a well-ventilated place. Keep container tightly closed.
Incompatible products : Strong oxidizing agents. Strong acids.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Ammonia (7664-41-7)		
USA ACGIH	ACGIH TWA (ppm)	25 ppm
USA ACGIH	ACGIH STEL (ppm)	35 ppm
USA OSHA	OSHA PEL (TWA) (mg/m ³)	35 mg/m ³
USA OSHA	OSHA PEL (TWA) (ppm)	50 ppm

Additional information : Ammonia evolved during use.

8.2. Exposure controls

Appropriate engineering controls : Provide adequate ventilation to minimize dust and/or vapour concentrations.
Personal protective equipment : Gloves. Safety glasses. Avoid all unnecessary exposure.



Hand protection : Wear protective gloves. Nitrile rubber gloves.
Eye protection : Chemical goggles or safety glasses.
Skin and body protection : Wear suitable protective clothing.
Respiratory protection : Ensure adequate ventilation, especially in confined areas. In case of insufficient ventilation, wear suitable respiratory equipment. Full face respirator with ammonia cartridges. Self contained breathing apparatus (SCBA) or positive pressure airline with mask are to be used in oxygen-deficient atmospheres.
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 : Solid
Appearance : Powder.
Colour : white.
Odour : characteristic.
Odour threshold : No data available
pH : Not applicable

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pH solution	: 9 - 9.5
Relative evaporation rate (butylacetate=1)	: Not applicable
Melting point	: No data available
Freezing point	: 0 °C Aqueous solution
Boiling point	: No data available
Flash point	: > 96 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not flammable
Vapour pressure	: No data available
Relative vapour density at 20 °C	: Not applicable
Relative density	: No data available
Solubility	: Water: 250 g/l
Log Pow	: No data available
Log Kow	: -1.33 (estimated value)
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: May form combustible dust concentrations in air.
Oxidising properties	: No data available
Explosive limits	: No data available

9.2. Other information

No additional information available

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

Avoid dust formation. Moisture.

10.5. Incompatible materials

Strong oxidizing agents. Strong acids.

10.6. Hazardous decomposition products

ammonia. Carbon dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity : Oral: Harmful if swallowed.

Zerion® FVS Series	
ATE US (oral)	1031.25 mg/kg bodyweight
Ammonium benzoate (1863-63-4)	
LD50 oral rat	825 mg/kg
ATE US (oral)	825 mg/kg bodyweight
Inorganic carbon salt	
LD50 oral rat	> 2000 mg/kg

Skin corrosion/irritation	: Causes skin irritation. pH: Not applicable
Serious eye damage/irritation	: Causes serious eye irritation. pH: Not applicable

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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
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. Harmful if swallowed.
Symptoms/effects after skin contact	: Causes skin irritation.
Symptoms/effects after eye contact	: Causes serious eye irritation.
Symptoms/effects after ingestion	: Swallowing a small quantity of this material will result in serious health hazard.

SECTION 12: Ecological information

12.1. Toxicity

Zerion® FVS Series	
LC50 fish 1	339 mg/l Menidia beryllina (EPA-821-R-02-012: METHOD 2006)
LC50 other aquatic organisms 1	334 mg/l Mysidopsis bahia (EPA-821-R-02-012: METHOD 2007)
LOEC (acute)	450 mg/l EPA-821-R-02-12: METHOD 2006
NOEC (acute)	315 mg/l EPA-821-R-02-012: METHOD 2007

12.2. Persistence and degradability

Zerion® FVS Series	
Persistence and degradability	Preparation based on substances which are readily biodegradable.

12.3. Bioaccumulative potential

Zerion® FVS Series	
Log Kow	-1.33 (estimated value)
Bioaccumulative potential	Bioaccumulation unlikely.
Inorganic carbon salt	
BCF fish 1	(no bioaccumulation)

12.4. Mobility in soil

Zerion® FVS Series	
Ecology - soil	Expected to be highly mobile in soil.

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.
Additional information	: Product in unopened original container prior to use does not meet criteria for hazardous waste according to 40 CFR 261 (no components listed on F, K, P or U lists; not ignitable, not corrosive, not reactive and not toxic).
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

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

Other information : No supplementary information available.

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Transport by sea

In accordance with IMDG: Not regulated

Air transport

In accordance with IATA: Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

Zerion® FVS Series

SARA Section 311/312 Hazard Classes	Immediate (acute) health hazard
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Ammonium benzoate (1863-63-4)

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

CERCLA RQ	5000 lb
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Inorganic carbon salt

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

Zerion® FVS Series

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

Ammonium benzoate (1863-63-4)

Listed on the Canadian DSL (Domestic Substances List)

WHMIS Classification	Uncontrolled product according to WHMIS classification criteria
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Inorganic carbon salt

Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

Ammonium benzoate (1863-63-4)

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

Inorganic carbon salt

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

15.3. US State regulations

Ammonium benzoate (1863-63-4)

U.S. - Massachusetts - Right To Know List
U.S. - New Jersey - Right to Know Hazardous Substance List
U.S. - Pennsylvania - RTK (Right to Know) - Environmental Hazard List
U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16: Other information

Revision date : 11/14/2017

Other information : None.

Full text of H-statements:

H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation

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