V-Shield 700 *Revision: 09.10.2020*

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

1.1 Product identifier
Trade name: V-Shield 700

1.2 Relevant identified uses of the substance or mixture and uses advised against:
Antimicrobial
1.3 Details of the supplier of the safety data sheet Manufacturer/Supplier:
OSM Shield, LLC
97 Main Street Suite W-202
Edwards, CO 81632
Further information obtainable from: www.osmshield.com

1.4 Emergency telephone number:
OSM Shield (US): +19703908717
Chemtrec (for emergencies): 1-800-424-9300
Outside of US: 001-703-527-3887

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture
Signal word: *Warning*
Eye irritation: *Category 2*
Skin irritation: *Category 3*
Chronic aquatic toxicity: *Category 3*

2.2 Hazard Statements
H315 – Causes skin irritation
H319 – Causes serious eye irritation
H412 – Harmful to aquatic life with long lasting effects

2.3 Precautionary Statements
P262 – Do not get in eyes, on skin, or on clothing
P273 – Avoid release into the environment

2.4 Prevention
P264 – Wash hands thoroughly after handling
P280 – Wear protective gloves/clothing/eye protection/face protection

2.5 Response
P305+P351+P338 – If in eyes: *Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*
P302+P352 – If on skin: *Wash with plenty of soap and water.*
P337+P332+P313 – If skin irritation persists, if skin irritation occurs: *Get medical advice/attention.*

2.6 Disposal
P501 – Dispose of contents/container to an appropriate treatment and disposal facility in accordance with applicable laws and regulations, and product characteristics at time of disposal.

2.7 Other hazards
None known.

SECTION 3: Hazardous Components

3.1 Components
Zinc Oxide
CAS # 1314-13-2
>= 15% - <= 20%
2-Methoxymethylethoxypropanol (DPM)
CAS # 34590-94-8
1.0% - 2.5%
Polyethylene glycol octyl phenoxy ether
CAS # 9002-93-1
0.2% - 3%

SECTION 4: First aid measures

4.1 Description of first aid measures
If inhaled:
Move exposed person to fresh air. If irritation persists, seek medical attention.
In case of skin contact:
Immediately flush with water. Remove all contaminated clothing and continue flushing with water. Wash contaminated areas with soap and water. Thoroughly clean and dry contaminated clothing before reuse. If irritation persists, seek medical attention.
In case of eye contact:
Immediately rinse with a lot of water for 15 minutes. Remove contact lenses within the first 2 minutes if possible. Get medical attention immediately.
If swallowed:
Never give anything by moth to an unconscious or convulsive person. Do NOT induce vomiting. Drink several glasses of water. Get medical attention immediately.

4.2 Most important symptoms and effects, both acute and chronic:
None known.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing agents:
Use water spray, alcohol resistant foam, dry chemical or carbon dioxide.
Unsuitable extinguishing media:
High volume water jet.

5.2 Specific hazards during firefighting
Do not use a solid stream as it may scatter and spread fire.

5.3 Hazardous combustion products
Carbon monoxide, carbon dioxide, and unburned hydrocarbons (smoke).

5.4 Special protective equipment for firefighters:
Wear self-contained breathing apparatus and protective suit.

5.5 Further information:
Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Use personal protective equipment.

6.2 Environmental precautions
Prevent further leakage or spillage. The product should not be allowed to enter drains, water courses, or the soil.

6.3 Methods and material for containment and cleaning up
Large spills should be collected mechanically (remove by pumping) for disposal. Soak up or condensate with inert absorbent materials and collect in ventilated waste container for disposal.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:
Use only in area provided with appropriate exhaust ventilation. Avoid formation of aerosol.

7.2 Conditions for safe storage, including any incompatibilities:
Keep container closed in a dry and well-ventilated place. Protect from frost, heat, and sunlight. Keep away from heat and sources of ignition. Stir before use.

SECTION 8: Exposure controls/personal protection

8.1 Components with workplace control parameters

Components	CAS #	Value Type (Form of Exposure)	Control Parameters/Permissible Concentration & Basis
Zinc Oxide	1314-13-2	TWA (Respirable fraction)	2 mg/m^3, ACGIH 5 mg/m^3, OSHA Z-1
		STEL (Respirable fraction)	10 mg/m^3, ACGIH
		TWA (Dust fumes)	5 mg/m^3, NIOSH REL 5 mg/m^3, OSHA Z-1
		ST (Dust fumes)	10 mg/m^3, NIOSH REL
		C (Dust), TWA (Total dust)	15 mg/m^3, NIOSH REL 15 mg/m^3, OSHA Z-1

8.2 Engineering measures
Ensure adequate ventilation, especially in confined areas.

8.3 Personal protective equipment
Respiratory protection:
Use with adequate ventilation. In the case of dust or aerosol formulation use respirator with an approved filter.

Hand protection:
Impervious gloves.
Eye protection:
Tightly fitting goggles. Wear face protection.
Skin and body protection:
Wear suitable protective clothing.

8.4 Additional protective measures
Ensure that eye flushing systems and safety showers are located close to the working place.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties General Information
Appearance:
Liquid, dispersion
Color:
White
Odor:
None
Specific gravity:
1.0 – 1.3
pH-value at 25 °C:
8.9 – 9.0
Flash point:
100 °C, Method: ISO 2719
Lower explosive limit:
Not determined.
Upper explosive limit:
Not determined.
Vapor pressure:
Not determined.
Vapor density:
Not determined.
Solubility in / Miscibility with water:
Dispersible

SECTION 10: Stability and reactivity

10.1 Chemical stability
The product is stable under recommended storage conditions.

10.2 Possibility of hazardous reactions
Hazardous polymerization does not occur.

10.3 Incompatible materials
Strong oxidizing agents.

10.4 Hazardous decomposition products
No decomposition if used as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
Acute oral toxicity:
No data available.
LD/LC50 values relevant for classification:
Zinc oxide – LD50(Rat): >5,000 mg/kg
Sulfosuccinic acid ester, sodium salt – LD50(Rat): >2,100 mg/kg
Skin corrosion/irritation:
Slight irritation
Zinc oxide – None (rabbit)
Sulfosuccinic acid ester, sodium salt – Yes (rabbit – 4 hrs exposure)
Serious eye damage/irritation:
Eye irritation
Zinc oxide – Mild eye irritation (rabbit)
Sulfosuccinic acid ester, sodium salt – Irreversible effects on the eye (rabbit)
Respiratory or skin sensitization:
No information available.
Germ cell mutagenicity:
All genotoxicity tests negative or inconclusive.
Reproductive toxicity:
Sulfosuccinic acid ester, sodium salt
Effects on fertility: NOAEL: 0.1%, F1: 1,0% (Rat, male and female)
Effects on fetal development: Oral (Rat, female) Dose: 1% or 2% Group: Yes 1,0 %
Repeated dose toxicity:
Sulfosuccinic acid ester, sodium salt: Oral (Rat, male and female) NOAEL: 750 mg/kg Exposure time: 90 days
Further information:
Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several components.

SECTION 12: Ecological information

12.1 Ecotoxicity
Aquatic and terrestrial:
No data available.

12.2 Persistence and degradability
Biodegradability:
The total of the organic compounds contained achieve values <60% BOD/COD or CO2 liberation or <70% DOC reduction in tests for ease of degradability. Threshold values for 'ready degradable' (e.g. to OECD method 301) are not tested.

12.3 Bioaccumulative potential
No data available.

12.4 Mobility in soil
No data available.

12.5 Other adverse effects
Additional ecological information:
Information given is based on data obtained from similar substances.

SECTION 13: Disposal considerations

13.1 Disposal methods
Waste from residues:
Dispose of in accordance with local regulations.
Contaminated packaging:
Empty containers should be taken to an approved waste handling site for disposal. Dispose of as unused product.

SECTION 14: Transport information

14.1 International Regulations, IATA-DGR
UN/ID No.:
UN 3082
Proper shipping name:
Environmentally hazardous substance, liquid, n.o.s (zinc oxide)
Class:
9
Packing group:
III
Labels:
Miscellaneous Dangerous Goods
Packing instruction (cargo aircraft):
964
Packing instruction (passenger aircraft):
964

14.2 International Regulations, IMDG-Code
UN No.:
UN 3082
Proper shipping name:
Environmentally hazardous substance, liquid, n.o.s (zinc oxide)
Class:
9
Packing group:
III
Labels:
9
EmS Code:
F-A, S-F
Marine pollutant:
Yes (hazardous to aquatic environment)

14.3 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

14.4 National Regulations, 49 CFR
UN/ID/NA No.:
UN 3082
Proper shipping name:
Environmentally hazardous substance, liquid, n.o.s (zinc oxide)
Class:
9
Packing group:
III
Labels:
CLASS 9
ERG Code:
171
Marine pollutant:
Yes (hazardous to aquatic environment)

SECTION 15: Regulatory information

15.1 EPCRA – Emergency Planning and Community Right- to-Know Act
SARA 311/312 Hazards:
Acute health hazard.
Clean Water Act:
This product does not contain any Hazardous Substances listed under the U.S. Clean Water Act, Section 311, Table 116.4A.
California Prop. 65:
This product does not contain any chemicals known to the State of California to cause cancer, birth defects, or any reproductive harm.

15.2 Inventory Listings
Not in compliance with the inventory:
AICS, NZIoC, ENCS, ISHL, KECI, PICCS
On the inventory, or in compliance with the inventory:
Canadian DSL, IECSC, TCSI, TSCA

15.3 TSCA List
No substances are subject to a Significant New Use Rule. No substances are subject to TSCA 12(b) export notifications requirements.

SECTION 16: Other information

The information herein is given to the receiver in good faith to the best of our knowledge. Nothing contained herein grants or extends a license, express or implied, in connection with patents, issued or pending, or the manufacturer of others. The information contained herein is based on the manufacturer's own gathering and the works of others. The manufacturer makes no warranties, expressed or implied, as to the accuracy, completeness, or adequacy of the information contained herein. The manufacturer shall not be held liable (regardless of fault) to the receivers employees, or anyone for direct, special or consequential damages arising out of or in connection with the accuracy, completeness, adequacy or furnishing of such information.

Contact: www.osmshield.com

Abbreviations and acronyms:

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent