Material Safety Data Sheet
STANZA HERBICIDE

MSDS #: 7592-A
Revision Date: 2014-01-23
Version 1

This MSDS has been prepared to meet U.S. OSHA Hazard Communication Standard 29 CFR 1910.1200 And Canadian Workplace Hazardous Materials Information System (WHMIS) requirements.

1. PRODUCT AND COMPANY IDENTIFICATION

Product name
STANZA HERBICIDE

Manufacturer
FMC Corporation
Agricultural Products Group
1735 Market Street
Philadelphia, PA 19103

Emergency telephone number
For leak, fire, spill or accident emergencies, call:
1 800 / 424 9300 (CHEMTREC - U.S.A.)
1 703 / 527 3887 (CHEMTREC - Collect - All Other Countries)

Medical Emergencies:
1 800 / 331-3148 (PROSAR - U.S.A. & Canada)
1 651 / 632-6793 (PROSAR - All Other Countries - Collect)

2. HAZARDS IDENTIFICATION

Appearance
Tan to brown granules

Physical state
Granules

Odor
Odorless

Potential health effects

Acute effects
Eyes
May cause severe eye irritation with corneal injury.

Chronic effects

3. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous ingredients

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No</th>
<th>Weight %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clopyralid Potassium Salt</td>
<td>58509-83-4</td>
<td>61.2</td>
</tr>
<tr>
<td>Flumetsulam</td>
<td>98967-40-9</td>
<td>18.9</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES
STANZA HERBICIDE

Eye contact
Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a poison control center or doctor for further treatment advice.

Skin contact
Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

Inhalation
Move to fresh air. If person is not breathing, call 911 (within the U.S. and Canada) or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

Notes to physician
No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIRE-FIGHTING MEASURES

| Flash Point | Not applicable |
| Sensitivity to Mechanical Impact | Not applicable |
| Sensitivity to Static Discharge | Not applicable |

Suitable extinguishing media
Water fog, foam, carbon dioxide, dry chemical.

Protective equipment and precautions for firefighters
Toxic, irritating gases may be formed under fire conditions. Prevent runoff from fire control from entering streams, sewers, or drinking water supply. Use self-contained pressure-demand breathing apparatus if needed to prevent exposure to smoke or airborne toxins. As in any fire, wear firefighters bunker gear.

NFPA
- Health Hazard: 0
- Flammability: 1
- Stability: 0
- Special Hazards: -

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Isolate and post spill area. Remove all sources of ignition. Wear suitable protective clothing, gloves and eye/face protection. For personal protection see section 8.

Environmental precautions
Keep people and animals away from and upwind of spill/leak. Keep material out of lakes, streams, ponds, and sewer drains.

Methods for cleaning up
Contain the spill. Sweep up and shovel into suitable containers for disposal.

Other
For further clean-up instructions call FMC Emergency Hotline number listed in Section 1 "Product and Company Identification" above.

7. HANDLING AND STORAGE

Handling
Avoid contact with skin, eyes and clothing. Avoid breathing vapors or mists. Wash thoroughly after handling.

Storage
Store in original container only. Keep in a dry place.

8. EXPOSURE CONTROL / PERSONAL PROTECTION

Exposure guidelines
3,6-Dichloropicolinic acid (clopyralid): 10 mg per cubic meter; Flumetsulam: 3 mg per cubic meter

Occupational exposure controls
Engineering measures
Apply technical measures to comply with the occupational exposure limits. When working in confined spaces (tanks, containers, etc.), ensure that there is a supply of air suitable for breathing and wear the recommended equipment.

Personal Protective Equipment

General Information
Please refer to the product label for additional Personal Protective Equipment advisories.

Respiratory protection
Atmospheric levels should be maintained below the exposure guideline. When respiratory protection is required for certain operations, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge.

Eye/face protection
For dust, splash, mist or spray exposure, wear chemical protective goggles or a face-shield

Skin and body protection
Wear suitable protective clothing. Protective shoes or boots.

Hand protection
Protective gloves

Hygiene measures
Clean water should be available for washing in case of eye or skin contamination. Wash skin prior to eating, drinking, chewing gum or using tobacco. Shower or bathe at the end of working. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Launder work clothing separately from regular household laundry.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Tan to brown granules</td>
</tr>
<tr>
<td>Physical state</td>
<td>Granules</td>
</tr>
<tr>
<td>Odor</td>
<td>Odorless</td>
</tr>
<tr>
<td>pH</td>
<td>No information available</td>
</tr>
<tr>
<td>Melting Point/Range</td>
<td>148-151 °C (based on active ingredient)</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling Point/Range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash Point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No information available</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No information available</td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Water solubility</td>
<td>Dispersible in water</td>
</tr>
<tr>
<td>Percent volatile</td>
<td>No information available</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Viscosity</td>
<td>No information available</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Stability
Stable under normal conditions.

Conditions to avoid
Clopyralid can react violently with aluminum above 110°C (230°F) when water is present. Avoid contact with aluminum

Materials to avoid
Aluminum

Hazardous decomposition products
May emit toxic fumes under fire conditions - carbon monoxide, carbon dioxide, nitrogen oxides, and hydrogen chloride.

Hazardous polymerization
Hazardous polymerization does not occur.

11. TOXICOLOGICAL INFORMATION

Acute effects
Eye contact  May cause severe eye irritation with corneal injury.

LD50 Dermal  > 5000 mg/kg (rabbit)
LD50 Oral  > 5000 mg/kg (Rat)
LC50 Inhalation  > 5.21 mg/L 4 hr (Rat)

Carcinogenicity  The active ingredients did not cause cancer in laboratory animals.

Mutagenicity  Flumetsulam did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Reproductive toxicity  None known

Developmental Toxicity  Not teratogenic in animal studies

STOT - single exposure  For the active ingredients, in animals, effects have been reported on the kidney and the liver. Other observations in animals include lethargy.

12. ECOLOGICAL INFORMATION

Ecotoxicity

<table>
<thead>
<tr>
<th>Active Ingredient(s)</th>
<th>Duration</th>
<th>Species</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clopyralid Potassium Salt (58509-83-4)</td>
<td>96 h LC50</td>
<td>Rainbow trout</td>
<td>700</td>
<td>mg/L</td>
</tr>
</tbody>
</table>

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<thead>
<tr>
<th>Active Ingredient(s)</th>
<th>Duration</th>
<th>Species</th>
<th>Value</th>
<th>Units</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clopyralid Potassium Salt (58509-83-4)</td>
<td>72 h EC50</td>
<td>Rainbow trout</td>
<td>700</td>
<td>mg/L</td>
</tr>
<tr>
<td>Flumetsulam (98967-40-9)</td>
<td>96 h LC50</td>
<td>Bobwhite quail</td>
<td>&gt;1000</td>
<td>mg/kg</td>
</tr>
<tr>
<td>Flumetsulam (98967-40-9)</td>
<td>96 h LC50</td>
<td>Oncorhynchus mykiss (rainbow trout)</td>
<td>&gt;122</td>
<td>mg/L</td>
</tr>
<tr>
<td>Flumetsulam (98967-40-9)</td>
<td>96 h LC50</td>
<td>Earthworm</td>
<td>&gt;1000</td>
<td>mg/kg</td>
</tr>
</tbody>
</table>

Environmental Fate

<table>
<thead>
<tr>
<th>Active Ingredient(s)</th>
<th>Type of Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clopyralid Potassium Salt (58509-83-4)</td>
<td>log Pow</td>
<td>1.81 - 2.55</td>
</tr>
<tr>
<td>Flumetsulam (98967-40-9)</td>
<td>log Pow</td>
<td>0.21</td>
</tr>
<tr>
<td>Flumetsulam (98967-40-9)</td>
<td>Stability in water</td>
<td>Stable to hydrolysis over a wide range of pH values.</td>
</tr>
<tr>
<td>Flumetsulam (98967-40-9)</td>
<td>Biodegradation</td>
<td>Not readily biodegradable</td>
</tr>
</tbody>
</table>

Other adverse effects  This product should not be applied directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment washwaters.
13. DISPOSAL CONSIDERATIONS

Waste disposal methods
Improper disposal of excess pesticide, spray mixture, or rinsate is prohibited. If these wastes cannot be disposed of by use according to label instructions, contact appropriate disposal authorities for guidance.

Contaminated packaging
Containers must be disposed of in accordance with local, state and federal regulations. Refer to the product label for container disposal instructions.

14. TRANSPORT INFORMATION

DOT
This material is not a hazardous material as defined by U.S. Department of Transportation at 49 CFR Parts 100 through 185.

TDG
Classification below is only applicable when shipped by vessel and is not applicable when shipped by road or rail only.

- **UN/ID No**: UN3077
- **Proper shipping name**: Environmentally hazardous substance, solid, n.o.s.
- **Hazard Class**: 9
- **Packing group**: III
- **Description**: UN3077, Environmentally hazardous substance, solid, n.o.s. (Clopyralid Potassium Salt, Flumetsulam), 9, III, Marine Pollutant

ICAO/IATA

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- **Limited quantity**: 30 kg G

IMDG/IMO

- **UN/ID No**: UN3077
- **Proper shipping name**: Environmentally hazardous substance, solid, n.o.s.
- **Hazard Class**: 9
- **Packing group**: III
- **EmS No.**: F-A, S-F
- **Description**: UN3077, Environmentally hazardous substance, solid, n.o.s. (Clopyralid Potassium Salt, Flumetsulam), 9, III, Marine Pollutant
15. REGULATORY INFORMATION

U.S. 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.

<table>
<thead>
<tr>
<th>SARA 311/312 Hazard Categories</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>yes</td>
</tr>
<tr>
<td>Chronic Health Hazard</td>
<td>yes</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>no</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>no</td>
</tr>
</tbody>
</table>

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material.

International Regulations

Mexico - Grade
No information available

Canada
This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR.

WHMIS Hazard Class
not determined

16. OTHER INFORMATION

Revision Date: 2014-01-23
Reason for revision: Initial Release.

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End of Material Safety Data Sheet