SAFETY DATA SHEET

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier
Product Name: DR S.T.S. FLOOR TREATMENT
Product Code: DLOSTXXDR-STS
Customer Code: STS-128 (4x1 Gallon), STS-5 (5 Pail), STS-55 (55 Drum)

Other means of identification

Recommended use of the chemical and restrictions on use
Recommended Use: Cleaning agent
Uses advised against: Use only as stated on label.

Details of the supplier of the safety data sheet

Manufactured For / Distributed By
Dynamic Research Brand a Formula Corp Brand
4432 C ST NE
Auburn, WA 98002
Phone (800) 772-7005
E-Mail sales@saf-t-step.com

2. HAZARDS IDENTIFICATION

Classification

<table>
<thead>
<tr>
<th>Hazard</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute toxicity - Oral</td>
<td>Category 5</td>
</tr>
<tr>
<td>Acute toxicity - Dermal</td>
<td>Category 5</td>
</tr>
<tr>
<td>Skin corrosion/irritation</td>
<td>Category 2</td>
</tr>
<tr>
<td>Serious eye damage/eye irritation</td>
<td>Category 2</td>
</tr>
</tbody>
</table>

Label elements

Emergency Overview

Warning

Hazard statements
May be harmful if swallowed
May be harmful in contact with skin
Causes skin irritation
Causes serious eye irritation
Precautionary Statements - Prevention
- Wash face, hands and any exposed skin thoroughly after handling
- Wear protective gloves/protective clothing/eye protection/face protection

Precautionary Statements - Response
- Specific Treatment (See Section 4 on the SDS)
  IF IN EYES: 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.
  IF ON SKIN: Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse.
  IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
  IF SWALLOWED: Rinse mouth. DO NOT induce vomiting. Drink plenty of water.

Precautionary Statements - Storage
- Keep out of reach of children

Precautionary Statements - Disposal
- Disposal should be in accordance with applicable regional, national and local laws and regulations

Hazards not otherwise classified (HNOC)

Other Information
Unknown Acute Toxicity 0.59% of the mixture consists of ingredient(s) of unknown toxicity

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Weight-%</th>
<th>Trade Secret</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfamic Acid</td>
<td>5329-14-6</td>
<td>1-5</td>
<td>*</td>
</tr>
<tr>
<td>1-Butoxy-2-Propanol</td>
<td>5131-66-8</td>
<td>1-5</td>
<td>*</td>
</tr>
<tr>
<td>Hydrofluoric Acid</td>
<td>7664-39-3</td>
<td>.1-1</td>
<td>*</td>
</tr>
</tbody>
</table>

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

### 4. FIRST AID MEASURES

First aid measures

**General advice**
If symptoms persist, call a physician. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Immediate medical attention is required. The effect of Hydrofluoric Acid (HF), i.e. the onset of pain, particularly in dilute solutions, may not be felt for up to 24 hours. It is important that workers have immediate access to the antidote (calcium gluconate) both on and off the worksite in order to apply it as soon as possible.

**Skin Contact**
Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Consult a physician if necessary. Immediately apply calcium gluconate gel 2.5 % and massage into the affected area using rubber gloves; continue to massage while repeatedly applying gel until 15 minutes after pain is relieved. Alternately, immerse the burned area in a solution of 0.2% iced aqueous Hyamine 1622 or 0.13% iced aqueous Zephiran Chloride. If finger/fingernails are touched, even if there is no pain, dip them in a bath of 5% calcium gluconate for 15 to 20 minutes. Consult a physician immediately in all cases of skin contact no matter how minor.
Eye contact
Keep eye wide open while rinsing. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. If symptoms persist, call a physician. Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Rinse the eyes with a calcium gluconate 1% solution for 10 minutes. In the case of difficulty opening the lids, administer an analgesic eyewash. Do not use oily drops, ointment, or HF skin burn treatments. Consult an ophthalmologist or eye specialist and physician immediately in all cases. Take to a hospital immediately.

Inhalation
Remove to fresh air. Call a physician. If breathing is irregular or stopped, administer artificial respiration. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician or poison control center immediately. Remove the subject from the contaminated area as soon as possible. Transport subject lying down, with the head higher than the body, to a quiet, uncontaminated and well ventilated location. Administer oxygen (2.5% calcium gluconate if available, can be oxygen nebulized with trained personnel) or cardiopulmonary resuscitation if necessary and as soon as possible. If patient is unconscious, give artificial respiration. Note: Mouth to mouth resuscitation is not recommended. Keep warm (blanket). Consult physician in all cases. Take to a hospital.

Ingestion
Do NOT induce vomiting. Drink plenty of water. Rinse mouth. If symptoms persist, call a physician. Immediate medical attention is required. Remove from exposure, lie down. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician or poison control center immediately. When directed by physician, give orally either 1% aqueous calcium gluconate solution, milk or calcium/magnesium containing anti-acid. Such solutions can be beneficial but also may be problematic if they induce vomiting.

Self-protection of the first aider
Use personal protective equipment as required. Mouth to mouth resuscitation is not recommended.

Most important symptoms and effects, both acute and delayed

Symptoms
Any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed

Note to physicians
Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Specific hazards arising from the chemical
The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Protective equipment and precautions for firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal precautions
Evacuate personnel to safe areas. Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

Environmental precautions
Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

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

Cover liquid spill with sand, earth or other non-combustible absorbent material. Cover powder spill with plastic sheet or tarp to minimize spreading. Pick up and transfer to properly labeled containers. Dam up. Take up mechanically, placing in appropriate containers for disposal. After cleaning, flush away traces with water.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing. Wash contaminated clothing before reuse. Do not breathe dust/fume/gas/mist/vapors/spray. Do not eat, drink or smoke when using this product. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems. Always add acid to water.

Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers. Keep/store only in original container. Do not reuse container.

Incompatible materials


8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure Guidelines

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>ACGIH TLV</th>
<th>OSHA PEL</th>
<th>NIOSH IDLH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ammonium Hydrogen Fluoride 1341-49-7</td>
<td>TWA: 2.5 mg/m³ F</td>
<td>TWA: 2.5 mg/m³ F</td>
<td>TWA: 2.5 mg/m³ F</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 2.5 mg/m³ dust</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>(vacated) TWA: 2.5 mg/m³</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrofluoric Acid 7664-39-3</td>
<td>TWA: 0.5 ppm F</td>
<td>TWA: 2.5 mg/m³ F</td>
<td>TWA: 30 ppm</td>
</tr>
<tr>
<td></td>
<td>TWA: 2.5 mg/m³ F</td>
<td>TWA: 2.5 mg/m³ F</td>
<td>Ceiling: 6 ppm 15 min</td>
</tr>
<tr>
<td></td>
<td>F* Ceiling: 2 ppm F</td>
<td>TWA: 2.5 mg/m³ dust (vacated) TWA: 3 ppm F (vacated)</td>
<td>Ceiling: 5 mg/m³ 15 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA: 2.5 mg/m³ (vacated)</td>
<td>TWA: 3 ppm</td>
</tr>
<tr>
<td></td>
<td></td>
<td>STEL: 6 ppm F</td>
<td>TWA: 2.5 mg/m³</td>
</tr>
</tbody>
</table>

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information

Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).

Appropriate engineering controls

Engineering Controls

Showers, Eyewash stations & Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/face protection

Tight sealing safety goggles. Face protection shield.

Skin and body protection

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Wear protective gloves and protective clothing.
Respiratory protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene
When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Keep away from food, drink and animal feeding stuffs. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended. Avoid contact with skin, eyes or clothing. Take off all contaminated clothing and wash it before reuse. Wear suitable gloves and eye/face protection. Keep working clothes separately.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical state</td>
<td>Liquid</td>
<td></td>
</tr>
<tr>
<td>Appearance</td>
<td>Clear</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Green</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Sweet</td>
<td></td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No Information available</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>2.0 - 3.0</td>
<td></td>
</tr>
<tr>
<td>Specific Gravity</td>
<td>1.03</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>Water Thin</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No Information available</td>
<td></td>
</tr>
<tr>
<td>Flash point</td>
<td>Above 200°F</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No Information available</td>
<td></td>
</tr>
<tr>
<td>Evaporation rate</td>
<td>Same as water</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No Information available</td>
<td></td>
</tr>
<tr>
<td>Flammability Limits in Air</td>
<td>No Information available</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td>No Information available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>No Information available</td>
<td></td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>No Information available</td>
<td></td>
</tr>
<tr>
<td>Vapor density</td>
<td>No Information available</td>
<td></td>
</tr>
<tr>
<td>Water solubility</td>
<td>Soluble in water</td>
<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>No Information available</td>
<td></td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No Information available</td>
<td></td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>No Information available</td>
<td></td>
</tr>
</tbody>
</table>

Other Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Density Lbs/Gal</td>
<td>8.6</td>
</tr>
<tr>
<td>VOC Content (%)</td>
<td>2.6% VOC CARB COMPLIANT for product category</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

Reactivity
No data available

Stability
Stable under recommended storage conditions.

Possibility of Hazardous Reactions
None under normal processing.

Conditions to avoid
Exposure to air or moisture over prolonged periods. Extremes of temperature and direct sunlight.

Incompatible materials

Hazardous Decomposition Products
Thermal decomposition can lead to release of irritating and toxic gases and vapors. Hydrogen fluoride.

11. TOXICOLOGICAL INFORMATION
Information on likely routes of exposure

**Product Information**
The primary effects and toxicity of this material are due to its corrosive nature.

**Inhalation**
Causes burns.

**Eye contact**
Severely irritating to eyes.

**Skin Contact**
May be harmful in contact with skin.

**Ingestion**
Causes burns. May be harmful if swallowed.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfamic Acid 5329-14-6</td>
<td>= 1450 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Glycolic Acid 79-14-1</td>
<td>= 1950 mg/kg (Rat)</td>
<td>-</td>
<td>= 3.6 mg/L (Rat) 4 h</td>
</tr>
<tr>
<td>Ammonium Hydrogen Fluoride 1341-49-7</td>
<td>= 130 mg/kg (Rat)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Hydrofluoric Acid 7664-39-3</td>
<td>-</td>
<td>-</td>
<td>= 0.79 mg/L (Rat) 1 h</td>
</tr>
</tbody>
</table>

Information on toxicological effects

**Symptoms**
No Information available.

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

**Corrosivity**
Causes burns. Extremely corrosive and destructive to tissue. Risk of serious damage to eyes.

**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.

<table>
<thead>
<tr>
<th>IARC (International Agency for Research on Cancer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not classifiable as a human carcinogen</td>
</tr>
</tbody>
</table>

**Reproductive toxicity**
No Information available.

**STOT - single exposure**
No Information available.

**STOT - repeated exposure**
No Information available.

**Chronic toxicity**
Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risk of irreversible effects.

**Target organ effects**
EYES, Respiratory system, Skin.

**Aspiration hazard**
No Information available.

Numerical measures of toxicity - Product Information

**Unknown Acute Toxicity**
0.59% of the mixture consists of ingredient(s) of unknown toxicity

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

12. ECOLOGICAL INFORMATION

**Ecotoxicity**
6.69% of the mixture consists of components(s) of unknown hazards to the aquatic environment

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Algae/aquatic plants</th>
<th>Fish</th>
<th>Crustacea</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfamic Acid 5329-14-6</td>
<td>-</td>
<td>14.2: 96 h Pimephales promelas mg/L LC50 static</td>
<td>-</td>
</tr>
<tr>
<td>Hydrofluoric Acid 7664-39-3</td>
<td>-</td>
<td>660: 48 h Leuciscus idus mg/L LC50</td>
<td>270: 48 h Daphnia species mg/L EC50</td>
</tr>
</tbody>
</table>

**Persistence and degradability**
No Information available.
Bioaccumulation
No Information available.

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>Partition coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrofluoric Acid</td>
<td>-1.4</td>
</tr>
</tbody>
</table>

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.

**US EPA Waste Number**
D002 U134 U154

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>RCRA</th>
<th>RCRA - Basis for Listing</th>
<th>RCRA - D Series Wastes</th>
<th>RCRA - U Series Wastes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydrofluoric Acid</td>
<td>U134</td>
<td>Yes</td>
<td>Yes</td>
<td>U134</td>
</tr>
</tbody>
</table>

This product contains one or more substances that are listed with the State of California as a hazardous waste.

### 14. TRANSPORT INFORMATION

**Note:** The basic description below is specific to the container size. This information is provided for at a glance DOT information. Please refer to the container and/or shipping papers for the appropriate shipping description before tendering this material for shipment. For additional information, please contact the distributor listed in section 1 of this SDS.

**U.S. Department of Transportation (USDOT)**

- **4x1 Gallon Case**
  Not regulated

- **Pails & Drums (<119 Gallons)**
  Not regulated

### 15. REGULATORY INFORMATION

**International Inventories**

**TSCA**
Complies

**DSL/NDSL**
Complies

- **TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- **DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List

**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
  No
- Reactive Hazard
  No
- Sudden release of pressure hazard
  No

**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, 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.

US State Regulations

California Proposition 65
This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>New Jersey</th>
<th>Massachusetts</th>
<th>Pennsylvania</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sulfamic Acid</td>
<td>X</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5329-14-6</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ammonium Hydrogen Fluoride</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>1341-49-7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hydrofluoric Acid</td>
<td>X</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>7664-39-3</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

U.S. EPA Label Information

EPA Pesticide Registration Number  Not Applicable

Additional information  No Information available.

16. OTHER INFORMATION

HMIS

<table>
<thead>
<tr>
<th>Health hazards</th>
<th>Flammability</th>
<th>Physical hazards</th>
<th>Personal protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>1</td>
<td>0</td>
<td>B</td>
</tr>
</tbody>
</table>

Prepared By  Regulatory Department
Issue Date  01-Apr-2015
Revision Date  13-Mar-2015

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 Safety Data Sheet