



SAFETY DATA SHEET

This Safety Data Sheet Complies With the Requirements of: 29 CFR 1910.1200

Revision Date: 07-Apr-2015

Version 1

1. IDENTIFICATION

Product Identifier

Product Name D-SHIELD DS-188

Other Means of Identification

Product Code DS-188

UN/ID no UN1760

Recommended Use of the Chemical and Restrictions on Use

Recommended Use Surfactant.

Details of the Supplier of the Safety Data Sheet

Aegis Chemical Solutions
Corporate Headquarters
4560 Kendrick Plaza Dr., Ste 190
Houston, TX 77032
Telephone: 281-258-4095

Emergency Telephone Number

Company Phone Number 281-258-4095

Emergency Telephone Chemtrec 1-800-424-9300

2. HAZARDS IDENTIFICATION

Classification

OSHA Regulatory Status

This product is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Acute toxicity - Inhalation (Dusts/Mists)	Category 4
Skin Corrosion/Irritation	Category 1
Serious Eye Damage/Eye Irritation	Category 1

Label Elements

Emergency Overview

Danger

Hazard Statements

Harmful if inhaled

Causes severe skin burns and eye damage



Color White

Physical State Liquid

Odor Amine-like

Precautionary Statements - Prevention

Use only outdoors or in a well-ventilated area
 Do not breathe dust/fume/gas/mist/vapors/spray
 Wash face, hands and any exposed skin thoroughly after handling
 Wear protective gloves/protective clothing/eye protection/face protection
 Keep away from heat/sparks/open flames/hot surfaces. — No smoking

Precautionary Statements - Response

Immediately call a POISON CENTER or doctor/physician
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 Immediately call a POISON CENTER or doctor/physician
 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
 Wash contaminated clothing before reuse
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 Call a POISON CENTER or doctor/physician if you feel unwell
 Immediately call a POISON CENTER or doctor/physician
 IF SWALLOWED: Rinse mouth. DO NOT induce vomiting
 In case of fire: Use CO₂, dry chemical, or foam for extinction

Precautionary Statements - Storage

Store locked up
 Store in a well-ventilated place. Keep cool

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards Not Otherwise Classified (HNOC)

Not applicable

Other Information

• Harmful to aquatic life with long lasting effects
 Unknown acute toxicity 0% of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Chemical Name	CAS No	Weight-%
Phosphoric acid	7664-38-2	12
Sulfamic acid	5329-14-6	1
Isopropyl alcohol	67-63-0	1

If CAS number is "proprietary", the specific chemical identity and percentage of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of First Aid Measures

General Advice If symptoms persist, call a physician.

Eye Contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.
Skin Contact	Immediate medical attention is not required. Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If skin irritation persists, call a physician.
Inhalation	If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Immediate medical attention is not required. If symptoms persist, call a physician. Move to fresh air in case of accidental inhalation of vapors or decomposition products.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician. Do NOT induce vomiting.
Self-protection of the first aider	Use personal protective equipment as required.

Most Important Symptoms and Effects, Both Acute and Delayed

Symptoms No information available.

Indication of Any Immediate Medical Attention and Special Treatment Needed

Note to Physicians Treat symptomatically.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Use. Dry chemical. Carbon dioxide (CO₂). Water spray (fog). Alcohol resistant foam.

Unsuitable Extinguishing Media Do not use a solid water stream as it may scatter and spread fire.

Specific Hazards Arising From the Chemical

Keep product and empty container away from heat and sources of ignition. Risk of ignition.

Explosion Data

Sensitivity to Mechanical Impact None.

Sensitivity to Static Discharge None.

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 Use personal protective equipment as required. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Pay attention to flashback. Take precautionary measures against static discharges.

Environmental Precautions

Environmental Precautions 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 Soak up with inert absorbent material. Dam up. Pick up and transfer to properly labeled containers. Take precautionary measures against static discharges.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Advice on Safe Handling

Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Use with local exhaust ventilation. All equipment used when handling the product must be grounded. Keep away from heat/sparks/open flames/hot surfaces. — No smoking. Use personal protective equipment as required. Do not breathe dust/fume/gas/mist/vapors/spray. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapors).

Conditions for Safe Storage, Including any Incompatibilities

Storage Conditions

Keep away from heat, sparks, flame and other sources of ignition (i.e., pilot lights, electric motors and static electricity). Keep containers tightly closed in a cool, well-ventilated place. Keep away from heat. Keep in properly labeled containers.

Incompatible Materials

Strong oxidizing agents. Acids. Chlorinated compounds.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Phosphoric acid 7664-38-2	STEL: 3 mg/m ³ TWA: 1 mg/m ³	TWA: 1 mg/m ³ (vacated) TWA: 1 mg/m ³ (vacated) STEL: 3 mg/m ³	IDLH: 1000 mg/m ³ TWA: 1 mg/m ³ STEL: 3 mg/m ³
Isopropyl alcohol 67-63-0	STEL: 400 ppm TWA: 200 ppm	TWA: 400 ppm TWA: 980 mg/m ³ (vacated) TWA: 400 ppm (vacated) TWA: 980 mg/m ³ (vacated) STEL: 500 ppm (vacated) STEL: 1225 mg/m ³	IDLH: 2000 ppm TWA: 400 ppm TWA: 980 mg/m ³ STEL: 500 ppm STEL: 1225 mg/m ³

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.

Skin and Body Protection

No special technical protective measures are necessary. 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 Considerations

When using do not eat, drink or smoke. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on Basic Physical and Chemical Properties

Physical State	Liquid	Color	White
Odor	Amine-like		
Odor Threshold	No information available		

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	1	
Melting Point/Freezing Point	No information available	
Boiling Point/Boiling Range	> 100 °C / 212 °F	
Flash Point	> 93 °C / > 200 °F	
Evaporation Rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limit in Air		
Upper Flammability Limit:	No information available	
Lower Flammability Limit:	No information available	
Vapor Pressure	17.5 mmHg	
Vapor Density	No information available	
Specific Gravity	1.09	
Water Solubility	Soluble in water	
Solubility in Other Solvents	No information available	
Partition Coefficient	No information available	
Autoignition Temperature	No information available	
Decomposition Temperature	No information available	
Kinematic Viscosity	No information available	
Dynamic Viscosity	No information available	
Explosive Properties	No information available	
Oxidizing Properties	No information available	

Other Information

Softening Point	No information available
Molecular Weight	No information available
VOC Content (%)	No information available
Density	No information available
Bulk Density	No information available

10. STABILITY AND REACTIVITY**Reactivity**

No data available.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to Avoid

Heat, flames and sparks.

Incompatible Materials

Strong oxidizing agents. Acids. Chlorinated compounds.

Hazardous Decomposition Products

Carbon oxides.

11. TOXICOLOGICAL INFORMATION**Information on Likely Routes of Exposure**

Product Information	Information given is based on available data of the components and the toxicology of similar products. The product has not been tested.
Inhalation	Harmful by inhalation. Inhalation of corrosive fumes/gases may cause coughing, choking, headache, dizziness, and weakness for several hours. Pulmonary edema may occur with tightness in the chest, shortness of breath, bluish skin, decreased blood pressure, and increased heart rate.
Eye Contact	Risk of serious damage to eyes.
Skin Contact	Causes burns.
Ingestion	Ingestion causes burns of the upper digestive and respiratory tracts.

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Phosphoric acid 7664-38-2	= 1530 mg/kg (Rat)	= 2740 mg/kg (Rabbit)	> 850 mg/m ³ (Rat) 1 h
Sulfamic acid 5329-14-6	= 1450 mg/kg (Rat)	-	-
Isopropyl alcohol 67-63-0	= 1870 mg/kg (Rat)	= 4059 mg/kg (Rabbit)	= 72600 mg/m ³ (Rat) 4 h

Information on Toxicological Effects

Symptoms No information available.

Delayed and Immediate Effects as Well as Chronic Effects From Short and Long-term Exposure

Sensitization	No information available.
Germ Cell Mutagenicity	Not known to cause heritable genetic damage.
Carcinogenicity	No information available.
<i>IARC (International Agency for Research on Cancer)</i>	
<i>Not classifiable as a human carcinogen</i>	
Reproductive Toxicity	This product does not contain any known or suspected reproductive hazards.
Teratogenicity	Not known to cause birth defects or have a deleterious effect on a developing fetus.
STOT - Single Exposure	No information available.
STOT - Repeated Exposure	No information available.
Target Organ Effects	Eyes, Respiratory system, Skin.
Aspiration Hazard	No information available.

Numerical Measures of Toxicity - Product Information

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

ATEmix (oral)	7444 mg/kg
ATEmix (dermal)	21617 mg/kg
ATEmix (inhalation-dust/mist)	1.77 mg/l
ATEmix (inhalation-vapor)	> 20

12. ECOLOGICAL INFORMATION

Ecotoxicity

5% of the mixture consists of component(s) of unknown hazards to the aquatic environment.

Chemical Name	Algae/Aquatic Plants	Fish	Crustacea
Phosphoric acid 7664-38-2	-	3 - 3.5: 96 h <i>Gambusia affinis</i> mg/L LC50	4.6: 12 h <i>Daphnia magna</i> mg/L EC50
Sulfamic acid 5329-14-6	-	14.2: 96 h <i>Pimephales promelas</i> mg/L LC50 static	-
Isopropyl alcohol 67-63-0	1000: 96 h <i>Desmodesmus</i> <i>subspicatus</i> mg/L EC50 1000: 72 h <i>Desmodesmus subspicatus</i> mg/L EC50	11130: 96 h <i>Pimephales promelas</i> mg/L LC50 static 1400000: 96 h <i>Lepomis macrochirus</i> µg/L LC50 9640: 96 h <i>Pimephales promelas</i> mg/L LC50 flow-through	13299: 48 h <i>Daphnia magna</i> mg/L EC50

Persistence and Degradability

No information available.

Bioaccumulation

No information available.

Chemical Name	Partition Coefficient
Isopropyl alcohol 67-63-0	0.05

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. Empty drums should be completely drained properly bunged and promptly returned to a drum reconditioner, or properly disposed.

US EPA Waste Number

D002.

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

Chemical Name	California Hazardous Waste Status
Phosphoric acid 7664-38-2	Corrosive
Isopropyl alcohol 67-63-0	Toxic Ignitable

14. TRANSPORT INFORMATION

DOT

UN/ID no	UN1760
Proper Shipping Name	Corrosive liquids, n.o.s. (contains phosphoric acid, citric acid)
Hazard Class	8
Packing Group	III

Quantity Dependent Shipping Descriptions

Quantity	< 4500 gallons
DOT Description	UN1760, Corrosive liquids, n.o.s., (contains phosphoric acid, citric acid), 8, PG III

Quantity	>= 4500 gallons
DOT Description 2	UN1760, Corrosive liquids, n.o.s., (contains phosphoric acid, citric acid), 8, PG III, RQ (phosphoric acid)

15. REGULATORY INFORMATION

International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

Legend:

- TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory
- DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List
- EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
- ENCS** - Japan Existing and New Chemical Substances
- IECSC** - China Inventory of Existing Chemical Substances
- KECL** - Korean Existing and Evaluated Chemical Substances
- PICCS** - Philippines Inventory of Chemicals and Chemical Substances
- AICS** - Australian Inventory of Chemical Substances

US Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

Chemical Name	SARA 313 - Threshold Values %
Isopropyl alcohol - 67-63-0	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive 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).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Phosphoric acid 7664-38-2	5000 lb	-	-	X

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.

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Phosphoric acid 7664-38-2	5000 lb	-	RQ 5000 lb final RQ RQ 2270 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Phosphoric acid 7664-38-2	X	X	X
Triethanolamine 102-71-6	X	X	X
Dodecylbenzenesulfonic acid 27176-87-0	X	X	X
Sulfamic acid 5329-14-6	X	-	-
Isopropyl alcohol 67-63-0	X	X	X

U.S. EPA Label Information**16. OTHER INFORMATION, INCLUDING DATE OF PREPARATION OF THE LAST REVISION**

NFPA	Health Hazards 2	Flammability 1	Instability 0	Physical and Chemical Properties -
HMIS	Health Hazards 3	Flammability 1	Physical Hazards 0	Personal Protection X

Revision Date: 07-Apr-2015

Revision Note:

This SDS was updated to comply with the 2012 OSHA Hazard Communication Standard.

Disclaimer

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