

SAFETY DATA SHEET

1. PRODUCT & COMPANY IDENTIFICATION

Product Name: Shield-Brite FDL 230SC **EPA Reg #** 64864-70
Product Code: 10437
Product Use: Post-Harvest Fludioxonil Fungicide for Pome & Stone Fruit
Product Restrictions: For Agriculture Use Only
Manufacturer/Importer/Supplier/Distributor information
Manufacturer: Pace International, LLC
Address: 5661 Branch Road, Wapato, WA 98951
Phone Number: 800-936-6750 (Monday-Friday, 7:00 a.m. – 4:00 p.m.)
Medical Emergency Phone Number: 888-271-4649 (PROPHARMA/PROSAR)
Transportation Emergency Phone Number: 800-424-9300 (CHEMTREC)
Supplier: See above

2. HAZARDS IDENTIFICATION

GHS Classification in accordance with 29 CFR 1910 (2012 OSHA Hazard Communication Standard)
This chemical is considered non-hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification:
Physical Hazard, Not classified.
Health Hazard, Not classified.
Environmental Hazard, Not classified.

Hazard Symbols:
None.

Signal Word:
None.

Hazard Statements:
This mixture does not meet the criteria for classification.

Hazard(s) not otherwise classified (HNOC):

Other Hazards:

Supplemental information:

Precautionary Statements:

Prevention Statements:

Observe good industrial hygiene practices.

Response Statements:

Wash thoroughly after handling this product.

Storage Statements:

Do not handle, store or open near an open flame, sources of heat or sources of ignition. Store in a cool, dry area at room temperature, and away from direct sunlight. Keep only in original container. Keep container tightly closed and upright when not in use. Do not store near food or feed. In case of spill on floor or paved surfaces, mop and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to the label. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. Keep out of reach of children and livestock

Disposal Statements:

Dispose of contents/container should be made in accordance with applicable regional, national and local laws and regulations.

None known.

None.

This is a registered EPA product. The product labeling is in compliance with EPA regulations and guidelines.

EPA Reg. # 64864-70

3. COMPOSITION/INFORMATION ON INGREDIENTS

Mixture

Chemical name

CAS #

%

Fludioxonil

131341-86-1

10 – 30*

Glycerol

56-81-5

10 – 30*

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

Composition comments: *US GHS: The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200

4. FIRST AID MEASURES

General Advice: Have the product container or label with you when calling a poison control

Skin contact:	center, doctor, or going for treatment. For emergency information concerning this product, call the National Pesticides Information Center [NPIC] at 1-800-858-7378 Monday through Friday, 7:30 am to 3:30 pm Pacific Time. During other times, call the poison control center at 1-800-222-1222. IF ON SKIN: Take off immediately all contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
Eye contact:	IF IN EYES: Hold eye open and rinse cautiously with water for 15 – 20 minutes. Remove contact lenses, if present, after the first 5 minutes if easy to do, then continue rinsing eye. Call a poison control center or doctor for treatment advice.
Inhalation:	If symptoms develop move victim to fresh air. If symptoms persist, obtain medical attention.
Ingestion:	Rinse mouth. Do not induce vomiting. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Never give anything by mouth if victim is unconscious or is convulsing. Obtain medical attention. Direct contact with eyes may cause temporary irritation.
Most important Symptoms / effects, acute and delayed	
Indication of any immediate medical attention and special treatment needed:	Provide general supportive measures and treat symptomatically.
General Information:	If you feel unwell, seek medical advice (show the label where possible). Show this safety data sheet to the doctor in attendance. Avoid contact with eyes and skin. Keep out of reach of children.

5. FIRE FIGHTING MEASURES

Suitable Extinguishing Media:	Water fog. Foam. Dry chemical powder. Carbon dioxide (CO2).
Unsuitable Extinguishing Media:	Do not use water jet as an extinguisher, as this will spread the fire.
Special Hazards Arising from the Chemical:	During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters:	Firefighters must wear full protective clothing including self-contained breathing apparatus.
Firefighting equipment/instructions:	Move containers from fire area if you can do so without risk.
Specific methods:	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards:	No unusual fire or explosion hazards noted.
Hazardous combustion products:	May include and are not limited to: Oxides of carbon oxides of sulfur and oxides of nitrogen.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment and Emergency procedures:	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. For personal protection, (see section 8 of the SDS).
Methods and Materials for Containment and Clean-Up:	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water. Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination. Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.
Environmental Precautions:	Avoid discharge into drains, water courses or onto the ground. Do not discharge into lakes, streams, ponds or public waters.

7. HANDLING & STORAGE

Precautions for Safe Handling:	Use good industrial hygiene practices in handling this material. Do not get in eyes, on skin or on clothing. Wear appropriate personal protective equipment (see Section 8). Wash thoroughly after handling. Do not eat, drink, or smoke when using this product.
Conditions for Safe Storage, including	Do not handle, store or open near an open flame, sources of heat or sources of ignition. Store in a cool, dry area at room temperature, and away from direct sunlight. Keep only in

any original container. Keep container tightly closed and upright when not in use. Do not store near food or feed. In case of spill on floor or paved surfaces, mop and remove to chemical waste storage area until proper disposal can be made if product cannot be used according to the label. Take special care to avoid contamination of equipment and facilities during cleanup procedures and disposal of wastes. Keep out of reach of children and livestock.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Occupational Exposure Limits:

US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Glycerol(CAS# 56-81-5)	PEL	70 mg/m3 20 ppm	Respirable Fraction Total Dust

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Fludioxonil (CAS# 131341-86-1)	TWA	1 mg/m3	Inhalable fraction.

Biological Limit Values: No biological exposure limits noted for the ingredients.

Appropriate engineering controls: Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

Individual protection measures, such as personal protective equipment

Eye/face protection: Wear safety glasses with side shields (or goggles). Eye wash station and washing facilities should be available.

Skin protection

Hand protection: Wear nitrile, neoprene, vinyl (PVC), or rubber gloves.

Other: Wear protective clothing (long sleeved shirt, pants, and shoes).

Respiratory protection: Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134)

Thermal hazards: Not applicable.

General hygiene considerations: Handle in accordance with good industrial hygiene and safety practice. Wash thoroughly after handling. Do not eat, drink or smoke when using this product. Routinely wash work clothing and protective equipment to remove contaminants.

9. PHYSICAL & CHEMICAL PROPERTIES

Physical state:	Liquid	Upper/Lower flammability or exposure limits:	Not available
Appearance / Color:	Off-white, viscous	Vapor pressure:	Not available
Odor:	Faint	Vapor density: (air =1)	Not available
Odor threshold:	Not available	Specific Gravity: (H₂O = 1)	1.128 g/ml @ 20°C
pH:	6.58	Solubility:	Miscible in water
Melting/Freezing point:	Not available	Partition coefficient (n-octanol-water):	Not available
Initial boiling point and boiling range:	Not available	Auto-ignition temperature:	Not available
Flash point:	>212°F (100°C)	Decomposition temperature:	Not available
Evaporation rate:	Not available	Viscosity:	63.1cST @ 40°C
Flammability (solid, gas):	Not applicable	Explosive Properties:	Not explosive
		Oxidizing Properties:	Not oxidizing

10. STABILITY & REACTIVITY

Reactivity hazards:	This product may react with strong oxidizing agents.
Possibility of Hazardous Reactions:	No dangerous reaction known under conditions of normal use.
Chemical stability:	Material is stable under normal conditions.
Conditions to avoid:	Keep away from heat / hot surfaces / sparks / open flames / and other ignition sources. This product may react with oxidizing agents. Do not mix with other chemicals.
Incompatible materials:	Strong oxidizing agents.
Hazardous decomposition products:	May include and are not limited to: Oxides of carbon, oxides of sulfur and oxides of nitrogen.

11. TOXICOLOGICAL INFORMATION

Routes of exposure	Eye, Skin contact, Inhalation, Ingestion.	
Information on likely routes of exposure		
Ingestion	May cause stomach distress, nausea or vomiting.	
Inhalation	No adverse effects due to inhalation are expected.	
Skin contact	Slightly irritating to the skin based on test data.	
Eye contact	Non-irritating based on test data.	
Symptoms related to the physical, chemical and toxicological characteristics	Skin irritation.	
Information on toxicological effects		
Acute toxicity		
Components	Species	Test Results
Shield-Brite FDL 230SC (CAS# Mixture)		
Acute		
<i>Dermal</i>		
LD50	Rat	>5000 mg/kg, Tested
<i>Inhalation</i>		
LC50	Rat	>5.1 mg/l/4h, Tested
<i>Oral</i>		
LD50	Rat	>5000 mg/kg Tested
Components	Species	Test Results
Fludioxonil (CAS# 131341-86-1)		
Acute		
<i>Dermal</i>		
LD50		>2000 mg/kg, Nufarm Limited
<i>Inhalation</i>		
LC50		>2.6 mg/l/4h, Nufarm Limited
<i>Oral</i>		
LD50		>5000 mg/kg, Nufarm Limited
Components	Species	Test Results
Glycerol (CAS# 56-81-5)		
Acute		
<i>Dermal</i>		
LD50	Guinea pig	56750 mg/kg, ECHA 45 ml/kg, ECHA
<i>Inhalation</i>		
LC50	Rat	>275 mg/L, 4 hours, ECHA 275000 mg/m3, 4 hours, ECHA
<i>Oral</i>		
LD50	Rat	11500 mg/kg, ECHA
Skin corrosion/irritation:	Slightly irritating to the skin based on test data.	
Exposure minutes	Not available	
Erythema value	Not available	
Oedema value	Not available	
Serious eye damage/eye irritation:	Non-irritating based on test data.	
Corneal opacity value	Not available	
Iris lesion value	Not available	
Conjunctival reddening value	Not available	
Conjunctival oedema value	Not available	
Recover days	Not available	
Respiratory sensitization:	Not a respiratory sensitizer.	
Skin sensitization:	This product is not expected to cause skin sensitization.	
Germ cell mutagenicity:	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic	
Carcinogenicity:	See below	
ACGIH Carcinogens		
Fludioxonil (CAS# 131341-86-1)	A3 Confirmed animal carcinogen with unknown relevance to humans.	
US. California Proposition 65 - CRT: Listed date/Carcinogenic substance		
1,4-Dioxane (CAS# 123-91-1)		
Ethylene oxide (CAS# 75-21-8)		
Formaldehyde (CAS 50-00-0)		
Naphthalene (CAS# 91-20-3)		
Propylene oxide (CAS # 75-56-9)		
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)		

Not listed.	
Reproductive toxicity:	This product is not expected to cause reproductive or developmental effects.
Teratogenicity:	Not available.
Specific target organ toxicity - single exposure:	Not classified.
Specific target organ toxicity - repeated exposure:	Not classified.
Aspiration hazard:	Material does not present an aspiration hazard.

12. ECOLOGICAL INFORMATION

Ecotoxicity	See below.	
Ecotoxicological data	Species	Test Results
Components		
Fludioxonil (CAS# 131341-86-1)		
Crustacea EC50	Daphnia	0.9 ppm, 48 hr, Nufarm Limited
Fish LC50	Rainbow trout	0.47 ppm, 96 hr, Nufarm Limited
Other LC50	Duck	>5200 ppm, 8 day, Nufarm Limited
	Quail	>5200 ppm, Nufarm Limited
Aquatic		
Fish LC50	Bluegill (Lepomis macrochirus)	0.74 ppm, 96 hr, Nufarm Limited
Glycerol (CAS# 56-81-5)		
Aquatic		
Fish LC50	Rainbow trout, donaldson trout (Oncorhynchus mykiss)	51000 – 57000 mg/L, 96 hours
Persistence/ degradability:	No data is available on the degradability of this product.	
Bioaccumulative potential:	No data available	
Mobility in soil:	No data available	
Mobility in general:	Not available.	
Other adverse effects:	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

13. DISPOSAL CONSIDERATIONS

Disposal instructions:	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Disposal should be made in accordance with applicable regional, national, and local laws and regulations.
Local disposal Regulations	Dispose on in accordance with all applicable local regulations.
Hazardous waste code	This product, in its original form and concentration, would not designate as a US federal hazardous waste when disposed.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. TRANSPORT INFORMATION

Transport of Dangerous Goods (TDG) Proof of Classification	Classification method: Classified according to Part 2, sections 2.1-2.8 of the Regulations for the transport of dangerous goods. If applicable, the technical name and product classification will appear below.
U.S. Department of Transportation (DOT)	
UN number:	UN3082
Proper shipping name:	Environmentally hazardous substances, liquid, n.o.s.
Technical name:	Fluidioxonil
Hazard class(es):	9
Packing group:	III

15. REGULATORY INFORMATION

US FEDERAL REGULATIONS	EPA Reg. # 64864-70
	PRECAUTIONARY STATEMENTS:
	HAZARDS TO HUMANS AND DOMESTIC ANIMALS
	CAUTION: Causes moderate eye irritation. Harmful if absorbed through the skin. Avoid contact with eyes, skin or clothing. Remove and wash clothing before reuse. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.
TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)	

Not regulated.
CERCLA Hazardous Substance List (40 CFR 302.4)
 Not listed.
SARA 304 Emergency Release Notification
 Not regulated.
US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1052)
 Not listed.
Superfund Amendments and Reauthorization Act of 1986 (SARA)
SARA 302 Extremely hazardous substance No
SARA 313 (TRI reporting) Not regulated.

OTHER FEDERAL REGULATIONS
Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List
 Not regulated.
Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)
 Not regulated.

US STATE REGULATIONS

US - Minnesota Haz Subs: Listed substance
 Glycerol (CAS# 56-81-5) Listed
US - Texas Effects Screening Levels: Listed substance
 Fludioxonil (CAS# 131341-86-1) Listed
 Glycerol (CAS# 56-81-5) Listed
US. Massachusetts RTK - Substance List
 Glycerol (CAS# 56-81-5)
US. New Jersey Worker and Community Right-to-Know Act
 Glycerol (CAS# 56-81-5)
US. Pennsylvania Worker and Community Right-to-Know Law
 Glycerol (CAS# 56-81-5)
US. Rhode Island RTK
 Glycerol (CAS# 56-81-5)
US. California Proposition 65



WARNING: This product can expose you to chemicals including Ethylene oxide, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov

US. California Proposition 65 - CRT: Listed date/Carcinogenic substance
 1,4-Dioxane (CAS# 123-91-1) Listed: January 1, 1988
 Ethylene oxide (CAS# 75-21-8) Listed: July 1, 1987
 Formaldehyde (CAS 50-00-0) Listed: January 1, 1988
 Naphthalene (CAS# 91-20-3) Listed: April 19, 2002
 Propylene oxide (CAS # 75-56-9) Listed: October 1, 1988
US. California Proposition 65 - CRT: Listed date/Developmental toxin
 Ethylene oxide (CAS# 75-21-8) Listed: August 7, 2009
US. California Proposition 65 - CRT: Listed date/Female reproductive toxin
 Ethylene oxide (CAS# 75-21-8) Listed: February 27, 1987
US. California Proposition 65 - CRT: Listed date/Male reproductive toxin
 Ethylene oxide (CAS# 75-21-8) Listed: August 7, 2009

Inventory status

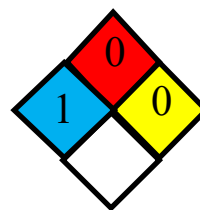
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA)	No
	Inventory	

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

16. OTHER INFORMATION

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	1
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	X



The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, Pace International, LLC and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, neither Pace International, LLC nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. It is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Pace International, LLC to confirm that you have the most current product label and SDS.

This Safety Data Sheet (SDS) may provide more information than the product label but does not replace or modify the product labeling (attached to and accompanying the product container). The product SDS and the product label both provide consistent and important health, safety, and environmental information as required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom"). This requirement covers employers, employees, emergency responders, users and others handling the product. All necessary hazard classification and appropriate precautionary, use, storage, and disposal information are set forth on the labeling and the SDS.

SDS preparation date: September 23, 2025

Replaces SDS dated: April 1, 2021

Changes since last Rebranding

Version: 3

revision: