SAFETY DATA SHEET
according to the OSHA Hazard Communication Standard

Zironar® LFR® fungicide/nematicide

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	02/20/2025	50002899	Date of first issue: 02/20/2025

SECTION 1. IDENTIFICATION

Product identifier
Product name Zironar® LFR® fungicide/nematicide

Other means of identification
Product code 50002899

Recommended use of the chemical and restrictions on use
Recommended use Biological fungicide/nematicide

Restrictions on use Use as recommended by the label.

Manufacturer or supplier's details
Manufacturer
FMC Corporation
2929 WALNUT ST
PHILADELPHIA PA 19104
USA
(215) 299-6000
SDS-Info@fmc.com

Supplier Address
FMC Corporation
2929 Walnut Street
Philadelphia PA 19104
USA

Emergency telephone
For leak, fire, spill or accident emergencies, call:
1 800 / 424-9300 (CHEMTREC - U.S.A.)
1 703 / 741-5970 (CHEMTREC - International)
1 703 / 527-3887 (CHEMTREC - Alternate)

Medical emergency:
U.S.A. & Canada: +1 800 / 331-3148
All other countries: +1 651 / 632-6793 (Collect)

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Not a hazardous substance or mixture.

GHS label elements
No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
Bacillus Paralicheniformis strain FMCH001	Not Assigned	4.5
Bacillus subtilis strain FMCH002	Not Assigned	5
glycerol	56-81-5	>= 30 - < 50
D-Glucopyranose, oligomeric, decyl octyl glycosides	68515-73-1	>= 1 - < 5

SECTION 4. FIRST AID MEASURES

General advice : Do not leave the victim unattended.

If inhaled : Move to fresh air.
If unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.
If experiencing any discomfort, immediately remove from exposure. Get medical attention if discomfort does not disappear.

In case of skin contact : Remove contaminated clothing and shoes.
Wash off immediately with plenty of water for at least 15 minutes.
Wash contaminated clothing before re-use.

In case of eye contact : Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Get medical attention.
Remove contact lenses.
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
Protect unharmed eye.

If swallowed : Do not induce vomiting without medical advice.
Keep respiratory tract clear.
Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

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

Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing Avoid inhalation, ingestion and contact with skin and eyes. If potential for exposure exists refer to Section 8 for specific personal protective equipment.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Dry chemical, CO2, water spray or regular foam. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	Do not spread spilled material with high-pressure water streams. High volume water jet
Hazardous combustion products	:	Carbon oxides Ammonia Sulfur oxides Sulphuric acid
Specific extinguishing methods	:	Remove undamaged containers from fire area if it is safe to do so. Use a water spray to cool fully closed containers.
Further information	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for fire-fighters	:	Firefighters should wear protective clothing and self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Evacuate personnel to safe areas. Use personal protective equipment. If it can be safely done, stop the leak. Do not touch or walk through the spilled material. Avoid formation of aerosol. Never return spills in original containers for re-use. Make sure that there is a sufficient amount of neutralizing/ absorbent material near the storage area. Mark the contaminated area with signs and prevent access to unauthorized personnel. For disposal considerations see section 13.

Environmental precautions	:	If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Never return spills in original containers for re-use. Collect as much of the spill as possible with a suitable absorbent material. Pick up and transfer to properly labeled containers. Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	For personal protection see section 8. Avoid formation of respirable particles. Dispose of rinse water in accordance with local and national regulations. Smoking, eating and drinking should be prohibited in the application area.
Conditions for safe storage	:	Electrical installations / working materials must comply with the technological safety standards.
Materials to avoid	:	Strong oxidizing agents Strong acids and strong bases
Further information on storage stability	:	No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
glycerol	56-81-5	TWA (mist, respirable fraction)	5 mg/m3	OSHA Z-1
		TWA (mist, total dust)	15 mg/m3	OSHA Z-1
		TWA (Mist - total dust)	10 mg/m3	OSHA P0
		TWA (Mist - respirable fraction)	5 mg/m3	OSHA P0

Personal protective equipment

Respiratory protection	:	No personal respiratory protective equipment normally required.

Hand protection Material	:	Wear chemical resistant gloves, such as barrier laminate, butyl rubber or nitrile rubber.
Eye protection	:	Ensure that eyewash stations and safety showers are close to the workstation location. Safety glasses
Skin and body protection	:	Long-sleeved shirt and long pants.
Protective measures	:	Plan first aid action before beginning work with this product. Always have on hand a first-aid kit, together with proper instructions. Ensure that eye flushing systems and safety showers are located close to the working place. Wear suitable protective equipment.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	:	liquid
Color	:	dark brown
Odor	:	Faint, Fermented
Odor Threshold	:	No data available
pH	:	6.72 Concentration: 100 % 7.37 Concentration: 1 % (1% solution in water)
Melting point/freezing point	:	No data available
Initial boiling point and boiling range	:	No data available
Flash point	:	No data available
Evaporation rate	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available

Lower explosion limit / Lower flammability limit	:	No data available
Vapor pressure	:	No data available
Relative vapor density	:	No data available
Relative density	:	1.215 (68 °F / 20 °C)
Density	:	1.213 g/cm3 (68 °F / 20 °C)
Bulk density	:	No data available
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	215.31 mm2/s (68 °F / 20 °C)
		203.93 mm2/s (104 °F / 40 °C)
Explosive properties	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	Stable under recommended storage conditions.
Conditions to avoid	:	Avoid extreme temperatures. Avoid formation of aerosol. Protect from frost, heat and sunlight.
Incompatible materials	:	Avoid strong acids, bases, and oxidizers.

Hazardous decomposition products	:	No hazardous decomposition products are known. Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity
Based on available data, the classification criteria are not met.

Product:

Acute oral toxicity	:	LD50 Oral (Rat, female): > 2,000 mg/kg GLP: yes Remarks: Based on data from a similar product.
Acute inhalation toxicity	:	LC50 (Rat): > 5.45 mg/l Exposure time: 4 h Test atmosphere: dust/mist GLP: yes Remarks: Based on data from a similar product.
Acute dermal toxicity	:	LD50 Dermal (Rat): > 5,000 mg/kg GLP: yes Remarks: Based on data from a similar product.

Components:

Bacillus Paralicheniformis strain FMCH001:

Acute oral toxicity	:	LD50 (Rat, female): > 5,000 mg/kg Method: OECD Test Guideline 425
Acute dermal toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 402
Acute toxicity (other routes of administration)	:	LC50 (Rat, male and female): >3.63 x 10^8 CFU Application Route: Intratracheal instillation Method: OPPTS 885.3150 LD50 (Rat, male and female): >1.04 x 10^8 cfu/animal Application Route: Intravenous Method: OPPTS 885.3200

Bacillus subtilis strain FMCH002:

Acute oral toxicity	:	LD50 (Rat, female): > 5,000 mg/kg Method: OECD Test Guideline 425
Acute dermal toxicity	:	LD50 (Rat, male and female): > 5,000 mg/kg Method: OECD Test Guideline 402

Acute toxicity (other routes of administration)	:	LD50 (Rat, male and female): >5.67 x 10^8 cfu/animal Application Route: Intravenous Method: OPPTS 885.3200 LC50 (Rat, male and female): >4.61 x 10^8 CFU Application Route: Intratracheal instillation Method: OPPTS 885.3150

glycerol:

Acute oral toxicity	:	LD50 (Rat, female): 11,500 mg/kg
Acute inhalation toxicity	:	LC0 (Rat, male): 11 mg/l Exposure time: 1 h Test atmosphere: dust/mist
Acute dermal toxicity	:	LD50 (Guinea pig, male and female): 56,750 mg/kg

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Acute oral toxicity	:	LD50 (Rat, male and female): > 2,000 mg/kg Method: OECD Test Guideline 423
Acute dermal toxicity	:	LD50 (Rabbit, male and female): > 2,000 mg/kg Method: OECD Test Guideline 402

Skin corrosion/irritation

Based on available data, the classification criteria are not met.

Product:

Species	:	Rabbit
Assessment	:	Not classified as irritant
Result	:	No skin irritation
GLP	:	yes
Remarks	:	Based on data from a similar product.

Components:

Bacillus Paralicheniformis strain FMCH001:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation
Remarks	:	Minimal effects that do not meet the threshold for classification.

Bacillus subtilis strain FMCH002:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

glycerol:

Species	:	Rabbit
Result	:	No skin irritation

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Species	:	Rabbit
Method	:	OECD Test Guideline 404
Result	:	No skin irritation

Serious eye damage/eye irritation

Based on available data, the classification criteria are not met.

Product:

Species	:	Rabbit
Result	:	No eye irritation
Assessment	:	Not classified as irritant
GLP	:	yes
Remarks	:	Based on data from a similar product.

Components:

Bacillus Paralicheniformis strain FMCH001:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

Bacillus subtilis strain FMCH002:

Species	:	Rabbit
Result	:	No eye irritation
Method	:	OECD Test Guideline 405

glycerol:

Species	:	Rabbit
Result	:	No eye irritation

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Species	:	Rabbit
Result	:	Irreversible effects on the eye
Method	:	OECD Test Guideline 405
Remarks	:	Based on data from similar materials

Respiratory or skin sensitization

Skin sensitization

Based on available data, the classification criteria are not met.

Respiratory sensitization

Based on available data, the classification criteria are not met.

Product:

Test Type	:	Local lymph node assay (LLNA)
Species	:	mice
Assessment	:	Did not cause sensitization on laboratory animals.
Result	:	Not a skin sensitizer.
GLP	:	yes
Remarks	:	Based on data from a similar product.

Components:

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Species	:	Guinea pig
Method	:	OECD Test Guideline 406
Result	:	Does not cause skin sensitization.
Remarks	:	Based on data from similar materials

Germ cell mutagenicity

Based on available data, the classification criteria are not met.

Components:

glycerol:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Result: negative

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Genotoxicity in vitro	:	Test Type: Chromosome aberration test in vitro Method: OECD Test Guideline 473 Result: negative Remarks: Based on data from similar materials Test Type: gene mutation test Method: OECD Test Guideline 476 Result: negative Test Type: reverse mutation assay Method: OECD Test Guideline 471 Result: negative Remarks: Based on data from similar materials
Genotoxicity in vivo	:	Test Type: Micronucleus test Species: Mouse (male) Application Route: Intraperitoneal injection Method: OECD Test Guideline 474 Result: negative
Germ cell mutagenicity - Assessment	:	Weight of evidence does not support classification as a germ cell mutagen.

Carcinogenicity

Based on available data, the classification criteria are not met.

Components:

glycerol:

Species	:	Rat
Application Route	:	Oral
Exposure time	:	2 years Years
Result	:	negative

IARC No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Based on available data, the classification criteria are not met.

Components:

glycerol:

Effects on fertility	:	Test Type: Two-generation study Species: Rat Application Route: Oral Result: negative
Effects on fetal development	:	Test Type: Two-generation study Species: Rat Application Route: Oral Result: negative

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Effects on fertility	:	Test Type: one-generation reproductive toxicity Species: Rat, male and female Application Route: Oral Dose: 0, 100, 300, 1000 mg/kg bw General Toxicity Parent: NOAEL: 1,000 mg/kg bw/day Method: OECD Test Guideline 421 Result: negative Remarks: Based on data from similar materials
Effects on fetal development	:	Species: Rat, females Application Route: Oral Dose: 0, 100, 300, 1000 mg/kg bw General Toxicity Maternal: NOAEL: 1,000 mg/kg bw/day Developmental Toxicity: NOAEL: 1,000 mg/kg bw/day Method: OECD Test Guideline 414

Result: negative
Remarks: Based on data from similar materials

Reproductive toxicity - Assessment : Weight of evidence does not support classification for reproductive toxicity

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Components:

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

glycerol:

Species	:	Rat
LOAEL	:	1 mg/kg
Application Route	:	Inhalation
Exposure time	:	14 d
Dose	:	0, 1, 1.93, 3.91 mg/L
Symptoms	:	respiratory tract irritation, Fatality

Species	:	Rat
NOAEL	:	0.165 mg/l
LOAEL	:	0.662 mg/l
Application Route	:	Inhalation
Exposure time	:	13 w
Dose	:	0, 0.033, 0.165, 0.662 mg/L
Symptoms	:	respiratory tract irritation

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Species	:	Rat, male and female
NOAEL	:	1000 mg/kg bw/day
Application Route	:	Oral
Exposure time	:	90d
Dose	:	0, 250, 500, 1000 mg/kg bw
Remarks	:	Based on data from similar materials

Aspiration toxicity

Based on available data, the classification criteria are not met.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Bacillus Paralicheniformis strain FMCH001:

Toxicity to terrestrial organisms	:	LD50 (Apis mellifera (bees)): >1.0x10^15 CFU/hectare Exposure time: 12 d End point: Acute oral toxicity Method: OCSPP 885.4380

Bacillus subtilis strain FMCH002:

Toxicity to terrestrial organisms	:	LD50 (Apis mellifera (bees)): >1.0x10^15 CFU/hectare Exposure time: 17 d End point: Acute oral toxicity Method: OCSPP 885.4380

glycerol:

Toxicity to fish	:	LC50 (Fish): 885 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 1,955 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	EC50 (Scenedesmus capricornutum (fresh water algae)): 2,900 mg/l Exposure time: 192 h
Toxicity to microorganisms	:	EC10 (Pseudomonas putida): 10,000 mg/l Exposure time: 16 h

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Toxicity to fish	:	LC0 (Danio rerio (zebra fish)): 59.3 mg/l Exposure time: 96 h Test Type: semi-static test
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Desmodesmus subspicatus (green algae)): 21 mg/l Exposure time: 72 h Test Type: static test
Toxicity to fish (Chronic toxicity)	:	NOEC (Danio rerio (zebra fish)): 1.8 mg/l Exposure time: 28 d Method: OECD Test Guideline 204 Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	LOEC (Daphnia magna (Water flea)): 2 mg/l Exposure time: 21 d Test Type: semi-static test Method: OECD Test Guideline 202 Remarks: Based on data from similar materials
Toxicity to microorganisms	:	EC50 (Pseudomonas putida): > 560 mg/l Exposure time: 6 h Test Type: Growth inhibition
Toxicity to soil dwelling organisms	:	LC0 (Eisenia fetida (earthworms)): >= 654 mg/kg Exposure time: 14 d Method: OECD Test Guideline 207 Remarks: Based on data from similar materials

Persistence and degradability

Components:

Bacillus Paralicheniformis strain FMCH001:

Biodegradability	:	Remarks: Expected to be biodegradable

Bacillus subtilis strain FMCH002:

Biodegradability	:	Remarks: Expected to be biodegradable

glycerol:

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 94 % Exposure time: 24 h

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Biodegradability	:	Inoculum: activated sludge, non-adapted Result: Readily biodegradable. Method: OECD Test Guideline 301E

Bioaccumulative potential

Components:

Bacillus Paralicheniformis strain FMCH001:

Bioaccumulation	:	Remarks: Bioaccumulation is unlikely.

Bacillus subtilis strain FMCH002:

Bioaccumulation	:	Remarks: Bioaccumulation is unlikely.

glycerol:

Partition coefficient: n-octanol/water	:	log Pow: -1.75 (77 °F / 25 °C) pH: 7.4

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Partition coefficient: n-octanol/water : log Pow: 1.72 (104 °F / 40 °C)
pH: 6.5
Remarks: Based on data from similar materials

Mobility in soil

Components:

Bacillus Paralicheniformis strain FMCH001:

Distribution among environmental compartments : Medium: Soil
Remarks: The product/substance is insoluble in water and will spread on the water surface.

Bacillus subtilis strain FMCH002:

Distribution among environmental compartments : Medium: Soil
Remarks: The product/substance is insoluble in water and will spread on the water surface.

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Components:

Bacillus Paralicheniformis strain FMCH001:

Additional ecological information : The harmful effects of the product in the environment are considered to be limited.

Bacillus subtilis strain FMCH002:

Additional ecological information : The harmful effects of the product in the environment are considered to be limited.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.

Send to a licensed waste management company.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

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

Domestic regulation

49 CFR Road
Not regulated as a dangerous good

Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : No SARA Hazards

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

ammonium sulphate	7783-20-2	>= 5 - < 10 %

Clean Air Act
This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

glycerol	56-81-5	>= 30 - < 50 %

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

glycerol	56-81-5
ammonium sulphate	7783-20-2
Quartz (SiO2)	14808-60-7

Pennsylvania Right To Know

glycerol	56-81-5
water	7732-18-5
ammonium sulphate	7783-20-2
Lignosulfonic acid, sodium salt, sulfomethylated	68512-34-5
Bacillus subtilis strain FMCH002	Not Assigned
Bacillus Paralicheniformis strain FMCH001	Not Assigned
D-Glucopyranose, oligomeric, decyl octyl glycosides	68515-73-1

Maine Chemicals of High Concern

Quartz (SiO2)	14808-60-7

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Product does not contain any listed chemicals

California Prop. 65

WARNING: This product can expose you to chemicals including Quartz (SiO2), which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

California Permissible Exposure Limits for Chemical Contaminants

glycerol	56-81-5

The ingredients of this product are reported in the following inventories:

TCSI	:	Not in compliance with the inventory
TSCA	:	Product contains substance(s) not listed on TSCA inventory.
AIIC	:	Not in compliance with the inventory

ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

FIFRA information

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals. Following is the hazard information as required on the pesticide label:

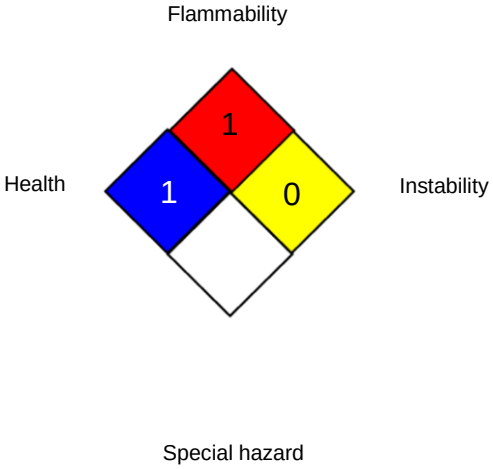
CAUTION

Harmful if swallowed, Causes eye irritation, Avoid contact with skin, eyes and clothing., Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

SECTION 16. OTHER INFORMATION

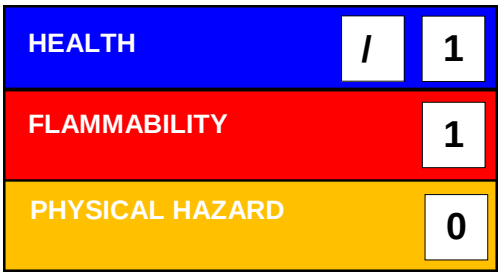
Further information

NFPA 704:



0 No health threat, **1** Slightly Hazardous, **2** Hazardous, **3** Extreme danger, **4** Deadly

HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard.

Full text of other abbreviations

OSHA P0	:	USA. Table Z-1-A Limits for Air Contaminants (1989 vacated values)
OSHA Z-1	:	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA P0 / TWA	:	8-hour time weighted average
OSHA Z-1 / TWA	:	8-hour time weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Develop-

ment; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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Prepared by:

FMC Corporation

End of Material Safety Data Sheet