SAFETY DATA SHEET

This safety data sheet was created pursuant to the requirements of:
US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200)

Revision date: 05-11-2026 **Revision Number:** 1

1. Identification

Product identifier

Product Name PL64821135-SMARTBATCH-GREEN -ZN/S

Other means of identification

Product Code CC01113583

Material number(s) CC0111358360

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended use For industrial use only

Restrictions on use None.

Details of the supplier of the safety data sheet

Supplier Address
Avient Corporation
33587 Walker Road, Avon Lake, OH 44012

E-mail address regulatoryservices@avient.com

Emergency telephone number

Company Phone Number 1 (440) 930-1000
or 1 (844) 4 AVIENT

24 Hour Emergency Phone Number CHEMTREC 1-800-424-9300 (24hrs for spill, leak, fire, exposure or accident)

Emergency Telephone No information available

2. Hazard(s) identification

This mixture has not been evaluated as a whole. Information provided on the health effects of this product is based on individual components. All ingredients are bound and potential for hazardous exposure as shipped is minimal. However, some vapors may be released upon heating and the end-user (fabricator) must take the necessary precautions (mechanical ventilation, respiratory protection, etc.) to protect employees from exposure.After handling, always wash hands thoroughly with soap and water.

Classification of the substance or mixture

This product is not considered hazardous by the US OSHA Hazard Communication Standard 2024 (29 CFR 1910.1200).

Hazards not otherwise classified (HNOC)
Not applicable.

Label elements
No label elements required

Hazard statements
No hazard statements required

Hazards classified under paragraph (d)(1)(ii) of 1910.1200
No information available.

Other information
No information available.

3. Composition/information on ingredients

Substance

Not applicable.

Mixture

Chemical name	CAS No.	Weight-%	Trade secret / Unique identifier
1-Butene, polymer with ethene	25087-34-7	40 - 60%	*
Titanium dioxide	13463-67-7	10 - 20%	*
1,6-Hexanediamine, N,N'-bis(2,2,6,6-tetramethyl-4-piperidinyl)-, polymer with 2,4-dichloro-6-(4-morpholinyl)-1,3,5-triazine	82451-48-7	5 - 10%	*
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, 2,2-bis[[3-[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropoxy]methyl]-1,3-propanediyl ester	6683-19-8	5 - 10%	*
Carbon black	1333-86-4	3 - 5%	*
C.I. Pigment Green 7	1328-53-6	1 - 3%	*
Iron oxide (Fe2O3)	1309-37-1	1 - 3%	*
Fatty acids, C12-21 and C18-unsaturated, 2,2,6,6-tetramethyl-4-piperidinyl esters	167078-06-0	1 - 3%	*
Ethene, homopolymer	9002-88-4	1 - 3%	*
Benzoic acid, 2,3,4,5-tetrachloro-6-cyano-, methyl ester, reaction products with p-phenylenediamine and sodium methoxide	106276-80-6	1 - 3%	*
Tris(2,4-di-tert-butylphenyl) phosphite	31570-04-4	1 - 3%	*
Butene, homopolymer	9003-29-6	1 - 3%	*
Silica, amorphous	7631-86-9	0.1 - 1%	*
Aluminum hydroxide (Al(OH)3)	21645-51-2	0.1 - 1%	*
Zinc oxide (ZnO)	1314-13-2	0.1 - 1%	*
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)-	77-99-6	< 0.1%	*
Toluene	108-88-3	< 0.1%	*
Chlorobenzene	108-90-7	< 0.1%	*

4. First-aid measures

Description of first aid measures

General advice Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

Inhalation Remove to fresh air. Get medical attention immediately if symptoms occur.

Eye contact	Get immediate medical attention. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area.
Skin contact	Wash off immediately with soap and plenty of water for at least 15 minutes. May cause an allergic skin reaction. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Rinse mouth. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Call a physician.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

Most important symptoms and effects, both acute and delayed

Symptoms	Burning sensation. May cause blindness. May cause redness and tearing of the eyes. Itching. Rashes. Hives.
Effects of Exposure	Suspected of causing cancer.

Indication of any immediate medical attention and special treatment needed

Note to physicians	May cause sensitization in susceptible persons. Treat symptomatically.

5. Fire-fighting measures

Suitable Extinguishing Media	Dry chemical, CO2, water spray or regular foam.
Unsuitable extinguishing media	Do not use water jetstream.
Specific hazards arising from the chemical	Product is or contains a sensitizer. May cause sensitization by skin contact.
Hazardous combustion products	Decomposition products can include and are not limited to:. Carbon monoxide. Carbon dioxide (CO2). Nitrogen oxides (NOx). Ammonia. Fluorinated oxides. Hydrogen fluoride. Hydrogen chloride. Hydrogen sulfide. Sulfur oxides. Sulfur trioxide. Oxides of sulfur. Phosphorus oxides. Phosphine. Metal oxides.

Explosion data

Sensitivity to mechanical impact	None.
Sensitivity to static discharge	None.

Special protective equipment and precautions for fire-fighters	Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Use personal protective equipment.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal precautions	Avoid contact with skin, eyes or clothing. Use personal protective equipment as required. Ensure adequate ventilation. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
Other information	Refer to protective measures listed in Sections 7 and 8.
For emergency responders	Use personal protection recommended in Section 8.

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 Take up mechanically, placing in appropriate containers for disposal.

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

Reference to other sections See section 8 for more information. See section 13 for more information.

7. Handling and storage

Precautions for safe handling

Advice on safe handling Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin, eyes or clothing. Do not eat, drink or smoke when using this product. Ensure adequate ventilation. In case of insufficient ventilation, wear suitable respiratory equipment. Take off contaminated clothing and wash before reuse.

General hygiene considerations Avoid contact with skin, eyes or clothing. Wear protective gloves, eye protection and face protection. Do not eat, drink or smoke when using this product. Wash hands before breaks and immediately after handling the product.

Conditions for safe storage, including any incompatibilities

Storage Conditions Keep containers tightly closed in a dry, cool and well-ventilated place. Store locked up. Keep out of the reach of children.

8. Exposure controls/personal protection

Control Parameters

Exposure Limits

Chemical name	ACGIH TLV	OSHA PEL	NIOSH
Titanium dioxide (13463-67-7)	TWA: 0.2 mg/m³ nanoscale respirable particulate matter TWA: 2.5 mg/m³ finescale respirable particulate matter	TWA: 15 mg/m³ total dust (vacated) TWA: 10 mg/m³ total dust	TWA: 2.4 mg/m³; CIB 63 fine TWA: 0.3 mg/m³; CIB 63 ultrafine, including engineered nanoscale IDLH: 5000 mg/m³
Carbon black (1333-86-4)	TWA: 3 mg/m³ inhalable particulate matter	TWA: 3.5 mg/m³ (vacated) TWA: 3.5 mg/m³	TWA: 3.5 mg/m³; TWA: 0.1 mg/m³; Carbon black in presence of Polycyclic aromatic hydrocarbons PAH IDLH: 1750 mg/m³
C.I. Pigment Green 7 (1328-53-6)	TWA: 1 mg/m³ Cu dust and mist	-	TWA: 1 mg/m³; Cu dust and mist IDLH: 100 mg/m³ Cu dust and mist
Iron oxide (Fe2O3) (1309-37-1)	TWA: 5 mg/m³ respirable particulate matter	TWA: 10 mg/m³ fume TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 10 mg/m³ fume and total dust Iron oxide (vacated) TWA: 5 mg/m³ respirable fraction regulated under Rouge	TWA: 5 mg/m³; Fe dust and fume IDLH: 2500 mg/m³ Fe dust and fume
Silica, amorphous (7631-86-9)	-	TWA: 20 mppcf	TWA: 6 mg/m³;

		TWA: (80)/(% SiO2) mg/m³ (vacated) TWA: 6 mg/m³ <1% Crystalline silica : (80)/(% SiO2) mg/m³ TWA	IDLH: 3000 mg/m³
Aluminum hydroxide (Al(OH)3) (21645-51-2)	TWA: 1 mg/m³ respirable particulate matter	-	-
Zinc oxide (ZnO) (1314-13-2)	TWA: 2 mg/m³ respirable particulate matter STEL: 10 mg/m³ respirable particulate matter	TWA: 5 mg/m³ fume TWA: 15 mg/m³ total dust TWA: 5 mg/m³ respirable fraction (vacated) TWA: 5 mg/m³ fume (vacated) TWA: 10 mg/m³ total dust (vacated) TWA: 5 mg/m³ respirable fraction (vacated) STEL: 10 mg/m³ fume	TWA: 5 mg/m³; dust and fume STEL: 10 mg/m³ fume Ceiling: 15 mg/m³ dust IDLH: 500 mg/m³
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)- (77-99-6)	TWA: 0.5 ppm inhalable fraction and vapor	-	-
Toluene (108-88-3)	TWA: 20 ppm pOt	TWA: 200 ppm (vacated) TWA: 100 ppm (vacated) TWA: 375 mg/m³ (vacated) STEL: 150 ppm (vacated) STEL: 560 mg/m³ Ceiling: 300 ppm	TWA: 100 ppm; TWA: 375 mg/m³; STEL: 150 ppm STEL: 560 mg/m³ IDLH: 500 ppm
Chlorobenzene (108-90-7)	TWA: 10 ppm	TWA: 75 ppm TWA: 350 mg/m³ (vacated) TWA: 75 ppm (vacated) TWA: 350 mg/m³	IDLH: 1000 ppm

Note See section 16 for terms and abbreviations.

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

Biological occupational exposure limits This product, as supplied, contains materials that do not have reportable biological exposure limits or are not subject to the reporting requirements of the local jurisdiction.

Chemical name	ACGIH
Toluene (108-88-3)	0.02 mg/L - blood (Toluene) - prior to last shift of workweek 0.03 mg/L - urine (Toluene) - end of shift 0.3 mg/g creatinine - urine (o-Cresol with hydrolysis) - end of shift
Chlorobenzene (108-90-7)	100 mg/g creatinine - urine (4-Chlorocatechol with hydrolysis) - end of shift at end of workweek 20 mg/g creatinine - urine (p-Chlorophenol with hydrolysis) - end of shift at end of workweek

Appropriate engineering controls

Engineering controls Ensure adequate ventilation, especially in confined areas. Apply technical measures to comply with the occupational exposure limits.

Individual protection measures, such as personal protective equipment

Eye/face protection Face protection shield. Tight sealing safety goggles.

Hand protection Wear suitable gloves.

Skin and body protection	Wear suitable protective clothing.
Respiratory protection	Consult with an industrial hygienist to determine the appropriate respiratory protection for your specific use of this material. Use appropriate respiratory protection.
Environmental exposure controls	Local authorities should be advised if significant spillages cannot be contained.

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Pellet
Physical state	Solid
Color	green
Odor (includes odor threshold)	Slight

Property	**Values**	**Remarks • Method**
Melting point / freezing point	No data available	None known
Boiling point (or initial boiling point or boiling range)	No data available	None known
Flammability	No data available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No data available	
Lower flammability or explosive limits	No data available	
Flash point	No data available	None known
Autoignition temperature	No data available	None known
Decomposition temperature	No data available	None known
SADT (°C)	No data available	None known
pH	No data available	None known
pH (as aqueous solution)	No data available	None known
Kinematic viscosity	No data available	None known
Dynamic viscosity	No data available	None known
Solubility	No data available	None known
Water solubility	No data available	None known
Partition coefficient n-octanol/water (log value)	No data available	None known
Vapor pressure (includes evaporation rate)	No data available	None known
Evaporation rate	No data available	None known
Density and/or relative density	No data available	None known
Bulk density	No data available	
Liquid Density	No data available	
Relative vapor density	No data available	None known
Particle characteristics		None known
Particle Size	No data available	
Particle Size Distribution	No data available	

Other information

10. Stability and reactivity

Reactivity	No information available.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	None under normal processing.
Conditions to avoid	Keep away from open flames, hot surfaces and sources of ignition. static discharge (electrostatic discharge). Storage near to reactive materials. Dust formation. Protect from moisture.

Incompatible materials Strong acids. Strong bases. Strong oxidizing agents.

Hazardous decomposition products None under normal use conditions.

11. Toxicological information

This mixture has not been evaluated as a whole for health effects. Exposure effects listed are based on existing health data for the individual components which comprise the mixture.

Information on likely routes of exposure

Product Information

Inhalation Specific test data for the substance or mixture is not available.

Eye contact Specific test data for the substance or mixture is not available. May result in permanent damage including blindness. Causes serious eye damage.

Skin contact Specific test data for the substance or mixture is not available. May cause irritation. May cause sensitization by skin contact. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. (based on components).

Ingestion Specific test data for the substance or mixture is not available. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms Burning sensation. May cause blindness. May cause redness and tearing of the eyes. Itching. Rashes. Hives.

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

Numerical measures of toxicity No information available.

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Benzenepropanoic acid, 3,5-bis(1,1-dimethylethyl)-4-hydroxy-, 2,2-bis[[3-[3,5-bis(1,1-dimethylethyl)-4-hydroxyphenyl]-1-oxopropoxy]methyl]-1,3-propanediyl ester (6683-19-8)	-	> 3160 mg/kg (Rabbit)	-
Carbon black (1333-86-4)	-	> 2000 mg/kg (Rabbit)	-
Fatty acids, C12-21 and C18-unsaturated, 2,2,6,6-tetramethyl-4-piperidinyl esters (167078-06-0)	-	> 5000 mg/kg (Rabbit)	-
Tris(2,4-di-tert-butylphenyl) phosphite (31570-04-4)	-	> 2000 mg/kg (Rat)	-
Butene, homopolymer (9003-29-6)	-	> 2000 mg/kg (Rabbit)	-
Silica, amorphous (7631-86-9)	-	> 5000 mg/kg (Rabbit)	-
1,3-Propanediol, 2-ethyl-2-(hydroxymethyl)- (77-99-6)	= 14100 mg/kg (Rat)	-	-
Toluene (108-88-3)	2600 mg/kg (Rat)	12000 mg/kg (Rabbit)	-
Chlorobenzene (108-90-7)	-	> 7940 mg/kg (Rabbit)	-

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

Skin corrosion/irritation May cause skin irritation.

Serious eye damage/eye irritation Classification based on data available for ingredients. Causes burns. Causes serious eye damage.

Respiratory or skin sensitization May cause an allergic skin reaction.

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

Carcinogenicity Contains a known or suspected carcinogen. Classification based on data available for ingredients. Suspected of causing cancer.

The table below indicates whether each agency has listed any ingredient as a carcinogen.

Chemical name	ACGIH	IARC	NTP	OSHA
Titanium dioxide (13463-67-7)	A3	Group 2B	-	X
Carbon black (1333-86-4)	A3	Group 2B	-	X
Iron oxide (Fe2O3) (1309-37-1)	-	Group 3	-	-
Ethene, homopolymer (9002-88-4)	-	Group 3	-	-
Silica, amorphous (7631-86-9)	-	Group 3	-	-
Toluene (108-88-3)	-	Group 3	-	-
Chlorobenzene (108-90-7)	A3	-	-	-

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

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.

Aspiration hazard No information available.

Other adverse effects No information available.

Interactive effects No information available.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

Chemical name	Earthworm	Avian	Honeybees
Chlorobenzene (108-90-7)	Acute Toxicity: LC50 = 29 mg/cm2 (Eisenia foetida, 48 h filter paper)	-	-

Persistence and degradability No information available.

Bioaccumulative potential No information available.

Chemical name	Partition coefficient	Bioconcentration factor (BCF)	Trophic magnification factor (TMF)
Toluene (108-88-3)	2.73	89.72	-
Chlorobenzene (108-90-7)	3.79	39.6	-

Mobility in soil No information available.

Other adverse effects No information available.

13. Disposal considerations

Disposal methods

Waste from residues/unused products Dispose of in accordance with local regulations. Dispose of waste in accordance with environmental legislation.

Contaminated packaging Do not reuse empty containers.

14. Transport information

DOT Not regulated

TDG Not regulated

MEX Not regulated

ICAO (air) Not regulated

IATA Not regulated

IMDG Not regulated

15. Regulatory information

International Regulations

The Rotterdam Convention Not applicable

International Inventories

TSCA Complies
DSL/NDSL Complies
ENCS Not determined
IECSC Complies
KECL Complies
PICCS Complies
AIIC Complies
NZIoC Complies
TCSI Complies

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
Should this product meet EPCRA 311/312 Tier reporting criteria at 40 CFR 370, refer to Section 2 of this SDS for appropriate classifications.

CWA (Clean Water Act)
This product contains the following substances which are regulated 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
C.I. Pigment Green 7 (1328-53-6)	-	X	-	-

CAA (Clean Air Act)
This product does not contain any substances regulated as pollutants pursuant to Clean Air Act (CAA).

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 contains CaProp 65 substances above 0.1%!

Chemical name	California Proposition 65
Titanium dioxide (13463-67-7)	Carcinogen
Carbon black (1333-86-4)	Carcinogen

U.S. State Right-to-Know Regulations

Chemical name	New Jersey	Massachusetts	Pennsylvania
Titanium dioxide (13463-67-7)	-	X	X
Carbon black (1333-86-4)	X	X	X
C.I. Pigment Green 7 (1328-53-6)	X	-	X
Iron oxide (Fe2O3) (1309-37-1)	X	X	X
Silica, amorphous (7631-86-9)	X	X	X
Zinc oxide (ZnO) (1314-13-2)	X	X	X
Toluene (108-88-3)	X	X	X
Chlorobenzene (108-90-7)	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. Other information

NFPA	**Health hazards** 3	**Flammability** 0	**Instability** 0	**Special hazards** -
HMIS	**Health hazards** 3 *	**Flammability** 0	**Physical hazards** 0	**Personal protection** -

Chronic Hazard Star Legend ** = Chronic Health Hazard*

Key or legend to abbreviations and acronyms used in the safety data sheet

List may include phrases which are not applicable to this product

ACGIH	American Conference of Governmental Industrial Hygienists
ADN	Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Europe)
ADR	Agreement concerning the International Carriage of Dangerous Goods by Road (Europe)
AIIC	Australian Inventory of Industrial Chemicals
ATE	Acute Toxicity Estimate
ASTM	American Society for the Testing of Materials
bar	Biological Reference Values for Chemical Compounds in the Work Area
BAT	Biological tolerance values for occupational exposure
BEL	Biological exposure limits
bw	Body weight
Ceiling	Maximum limit value
CMR	Carcinogen, Mutagen or Reproductive Toxicant
DOT	Department of Transportation (United States)
DSL	Domestic Substances List (Canada)
ECEL	Existing Chemical Exposure Limit
EINECS	European Inventory of Existing Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ENCS	Existing and New Chemical Substances (Japan)
EPA	U.S. Environmental Protection Agency
GHS	Globally Harmonized System
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
ICAO	International Civil Aviation Organization
IECSC	Inventory of Existing Chemical Substances in China
IMDG	International Maritime Dangerous Goods
IMO	International Maritime Organization
ISO	International Organization for Standardization
KECI	Korean 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
NDSL	Non-Domestic Substances List (Canada)
NFPA	National Fire Protection Association
NIOSH	National Institute for Occupational Safety and Health
n.o.s.	Not Otherwise Specified
NOAEC	No Observed Adverse Effect Concentration
NOAEL	No Observed Adverse Effect Level
NOELR	No Observable Effect Loading Rate
NTP	National Toxicology Program (United States)
NZIoC	New Zealand Inventory of Chemicals
OECD	Organization for Economic Cooperation and Development
OEL	Occupational exposure limits
OSHA	Occupational Safety and Health Administration of the US Department of Labor
PBT	Persistent, Bioaccumulative and Toxic substance
PICCS	Philippines Inventory of Chemicals and Chemical Substances
PMT	Persistent, Mobile and Toxic

PPE	Personal protective equipment
QSAR	Quantitative Structure Activity Relationship
RID	Agreement concerning the International Carriage of Dangerous Goods by Rail (Europe)
SADT	Self-Accelerating Decomposition Temperature
SAR	Structure-activity relationship
SARA	Superfund Amendments and Reauthorization Act
SDS	Safety Data Sheet
SL	Surface Limit
STEL	Short Term Exposure Limit
STOT RE	Specific target organ toxicity - Repeated exposure
STOT SE	Specific target organ toxicity - Single exposure
TCSI	Taiwan Chemical Substance Inventory
TDG	Transport of Dangerous Goods (Canada)
TSCA	Toxic Substances Control Act (United States)
TWA	Time-Weighted Average
UN	United Nations
VOC	Volatile organic compounds
vPvB	Very Persistent and Very Bioaccumulative
vPvM	Very Persistent and Very Mobile
As	Allergenic substance
DS	Dermal Sensitizer
Ot	Ototoxicant
pOt	Ototoxicant - potential to cause hearing disorders
PS	Photosensitizer
RS	Respiratory Sensitizer
S	Sensitizer
poS	Sensitizer - capable of causing occupational asthma
Sa	Simple asphyxiant
Sd	Skin designation
pSd	Skin designation - potential for cutaneous absorption
Sdv	Skin designation - vacated
Sk	Skin notation
dSk	Skin notation - danger of cutaneous absorption
pSk	Skin notation - potential for cutaneous absorption

Key literature references and sources for data used to compile the SDS
U.S. Agency for Toxic Substances and Disease Registry (ATSDR)
U.S. Environmental Protection Agency ChemView Database
European Food Safety Authority (EFSA)
U.S. Environmental Protection Agency
U.S. EPA Acute Exposure Guideline Level(s) (AEGL(s))
U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
U.S. Environmental Protection Agency High Production Volume Chemicals
Food Research Journal
U.S. Hazardous Substance Data Bank (HSDB)
International Uniform Chemical Information Database (IUCLID)
Japan National Institute of Technology and Evaluation (NITE)
Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
U.S. National Institute for Occupational Safety and Health (NIOSH)
National Library of Medicine's ChemID Plus (NLM CIP)
National Library of Medicine’s PubMed database (NLM PUBMED)
U.S. National Toxicology Program (NTP)
New Zealand's Chemical Classification and Information Database (CCID)
International Organization for Economic Co-operation and Development (OECD) Environment, Health, and Safety Publications
International Organization for Economic Co-operation and Development (OECD) High Production Volume Chemicals Program
International Organization for Economic Co-operation and Development (OECD) Screening Information Data Set
United Nations World Health Organization (WHO)

Revision date 05-11-2026

Revision Note No information available.

Disclaimer

Notice to reader: To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist. Particularly, this information may not be valid for such material used in conjunction with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet