

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



ACTARA

Version 3.0 Revision Date: 08/14/2023 SDS Number: S13945202 Date of last issue: 10/13/2020
Date of first issue: 07/22/2015

SECTION 1. IDENTIFICATION

Product name : ACTARA
Design code : A9584C

Product Registration number : 100-938

Manufacturer or supplier's details

Company name of supplier : Syngenta Crop Protection, LLC
Address : Post Office Box 18300
Greensboro NC 27419
United States of America (USA)

Telephone : 1 800 334 9481
Telefax : 1 336 632 2192

E-mail address : sds.requests@syngenta.com

Recommended use of the chemical and restrictions on use

Recommended use : Insecticide

Restrictions on use : General Use Pesticide

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Combustible dust

GHS label elements

Signal Word : Warning

Hazard Statements : May form combustible dust concentrations in air.

Other hazards

May form combustible dust concentrations in air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
starch	9005-25-8	≥ 50 - < 70
thiamethoxam	153719-23-4	25
lignosulfonic acid, ethoxylated, sodium salts	68611-14-3	≥ 5 - < 10
silica	61790-53-2	≥ 5 - < 10
sulfuric acid, mono-C12-14-alkyl esters, sodium salts	85586-07-8	≥ 1 - < 5

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



ACTARA

Version	Revision Date:	SDS Number:	Date of last issue: 10/13/2020
3.0	08/14/2023	S13945202	Date of first issue: 07/22/2015

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

- General advice : Have the product container, label or Safety Data Sheet with you when calling the emergency number, a poison control center or physician, or going for treatment.
- If inhaled : Take the victim into fresh air.
If breathing is irregular or stopped, administer artificial respiration.
Keep patient warm and at rest.
Call a physician or poison control center immediately.
- In case of skin contact : Take off all contaminated clothing immediately.
Wash off immediately with plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.
- In case of eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
Remove contact lenses.
Immediate medical attention is required.
- If swallowed : If swallowed, seek medical advice immediately and show this container or label.
Do NOT induce vomiting.
- Most important symptoms and effects, both acute and delayed : Nonspecific
No symptoms known or expected.
- Notes to physician : There is no specific antidote available.
Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media : Extinguishing media - small fires
Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Extinguishing media - large fires
Alcohol-resistant foam
or
Water spray
- Unsuitable extinguishing media : Do not use a solid water stream as it may scatter and spread fire.
- Specific hazards during fire fighting : As the product contains combustible organic ingredients, fire will produce dense black smoke containing hazardous products of combustion (see section 10).
Exposure to decomposition products may be a hazard to health.
- Further information : Do not allow run-off from fire fighting to enter drains or water courses.
Cool closed containers exposed to fire with water spray.
- Special protective equipment for fire-fighters : Wear full protective clothing and self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



ACTARA

Version 3.0 Revision Date: 08/14/2023 SDS Number: S13945202 Date of last issue: 10/13/2020
Date of first issue: 07/22/2015

- Personal precautions, protective equipment and emergency procedures : Refer to protective measures listed in sections 7 and 8. Avoid dust formation.
- Environmental precautions : Do not flush into surface water or sanitary sewer system. If the product contaminates rivers and lakes or drains inform respective authorities.
- Methods and materials for containment and cleaning up : Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13). Do not create a powder cloud by using a brush or compressed air. Clean contaminated surface thoroughly. Clean with detergents. Avoid solvents. Retain and dispose of contaminated wash water.

SECTION 7. HANDLING AND STORAGE

- Advice on safe handling : This material is capable of forming flammable dust clouds in air, which, if ignited, can produce a dust cloud explosion. Flames, hot surfaces, mechanical sparks and electrostatic discharges can serve as ignition sources for this material. Electrical equipment should be compatible with the flammability characteristics of this material. The flammability characteristics will be made worse if the material contains traces of flammable solvents or is handled in the presence of flammable solvents. Avoid contact with skin and eyes. When using do not eat, drink or smoke. For personal protection see section 8.
- Conditions for safe storage : Keep containers tightly closed in a dry, cool and well-ventilated place. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.
- Further information on storage stability : Physically and chemically stable for at least 2 years when stored in the original unopened sales container at ambient temperatures.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
starch	9005-25-8	TWA	10 mg/m ³	ACGIH
		TWA (Respirable)	5 mg/m ³	NIOSH REL
		TWA (total)	10 mg/m ³	NIOSH REL
		TWA (total dust)	15 mg/m ³	OSHA Z-1
		TWA (respirable fraction)	5 mg/m ³	OSHA Z-1

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



ACTARA

Version 3.0 Revision Date: 08/14/2023 SDS Number: S13945202 Date of last issue: 10/13/2020
Date of first issue: 07/22/2015

		TWA (Total dust)	15 mg/m3	OSHA P0
		TWA (respirable dust fraction)	5 mg/m3	OSHA P0
thiamethoxam	153719-23-4	TWA	5 mg/m3	Syngenta
silica	61790-53-2	TWA	6 mg/m3	OSHA P0
		TWA (Dust)	20 Million particles per cubic foot (Silica)	OSHA Z-3
		TWA (Dust)	80 mg/m3 / %SiO2 (Silica)	OSHA Z-3
		TWA	6 mg/m3 (Silica)	NIOSH REL

Engineering measures : THE FOLLOWING RECOMMENDATIONS FOR EXPOSURE CONTROLS/PERSONAL PROTECTION ARE INTENDED FOR THE MANUFACTURE, FORMULATION AND PACKAGING OF THE PRODUCT. FOR COMMERCIAL APPLICATIONS AND/OR ON-FARM APPLICATIONS CONSULT THE PRODUCT LABEL.

Containment and/or segregation is the most reliable technical protection measure if exposure cannot be eliminated. The extent of these protection measures depends on the actual risks in use. Maintain air concentrations below occupational exposure standards. Where necessary, seek additional occupational hygiene advice.

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required. When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection

Remarks : Wear protective gloves. The choice of an appropriate glove does not only depend on its material but also on other quality features and is different from one producer to the other. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. The breakthrough time depends amongst other things from the material, the thickness and the type of glove and therefore has to be measured for each case. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.

Eye protection : No special protective equipment required.

Skin and body protection : Choose body protection in relation to its type, to the

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



ACTARA

Version	Revision Date:	SDS Number:	Date of last issue: 10/13/2020
3.0	08/14/2023	S13945202	Date of first issue: 07/22/2015

Protective measures : concentration and amount of dangerous substances, and to the specific work-place.
Remove and wash contaminated clothing before re-use.
Wear as appropriate:
Dust impervious protective suit
: The use of technical measures should always have priority over the use of personal protective equipment.
When selecting personal protective equipment, seek appropriate professional advice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	granules
Color	:	beige to brown
Odor	:	musty
Odor Threshold	:	No data available
pH	:	7 - 11 Concentration: 1 %w/v
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	No data available
Evaporation rate	:	No data available
Flammability (solid, gas)	:	May form combustible dust concentrations in air., Not classified as a flammability hazard
Burning number	:	5 (212 °F / 100 °C) 2 (68 °F / 20 °C)
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
Density	:	No data available
Bulk density	:	0.42 - 0.52 g/cm ³
Solubility(ies)	:	
Water solubility	:	No data available

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



ACTARA

Version	Revision Date:	SDS Number:	Date of last issue: 10/13/2020
3.0	08/14/2023	S13945202	Date of first issue: 07/22/2015

Solubility in other solvents : not soluble

Partition coefficient: n-octanol/water : No data available

Autoignition temperature : > 248 °F / > 120 °C

Decomposition temperature : No data available

Minimum ignition temperature : 400 °C

Viscosity

 Viscosity, dynamic : No data available

 Viscosity, kinematic : No data available

Explosive properties : Not explosive

Oxidizing properties : The substance or mixture is not classified as oxidizing.

Self-heating substances : The substance or mixture is not classified as self heating.

Surface tension : 43.0 - 50.4 mN/m, 0.600 g/l, 68 °F / 20 °C

Minimum ignition energy : 30 - 100 mJ

Particle size : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : None reasonably foreseeable.

Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : Stable at normal ambient temperature and pressure.
Hazardous polymerization does not occur.
At elevated temperatures it will undergo rapid, gas evolving thermal decomposition.
No dangerous reaction known under conditions of normal use.

Conditions to avoid : No decomposition if used as directed.

Incompatible materials : None known.

Hazardous decomposition products : Combustion or thermal decomposition will evolve toxic and irritant vapors.

Hazardous decomposition products : No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Ingestion
Inhalation
Skin contact
Eye contact

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



ACTARA

Version	Revision Date:	SDS Number:	Date of last issue: 10/13/2020
3.0	08/14/2023	S13945202	Date of first issue: 07/22/2015

Acute toxicity

Product:

- Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg
- Acute inhalation toxicity : LC50 (Rat, male and female): > 5.29 g/m³
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Components:

thiamethoxam:

- Acute oral toxicity : LD50 (Rat, male and female): 1,563 mg/kg
- Acute inhalation toxicity : LC50 (Rat, male and female): > 3.72 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity
- Acute dermal toxicity : LD50 (Rat, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

sulfuric acid, mono-C12-14-alkyl esters, sodium salts:

- Acute oral toxicity : LD50 (Rat): 1,800 mg/kg
Method: OECD Test Guideline 401

Skin corrosion/irritation

Product:

- Species : Rabbit
Result : No skin irritation

Components:

thiamethoxam:

- Species : Rabbit
Result : No skin irritation

lignosulfonic acid, ethoxylated, sodium salts:

- Result : Irritating to skin.

sulfuric acid, mono-C12-14-alkyl esters, sodium salts:

- Result : Irritating to skin.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



ACTARA

Version	Revision Date:	SDS Number:	Date of last issue: 10/13/2020
3.0	08/14/2023	S13945202	Date of first issue: 07/22/2015

Serious eye damage/eye irritation

Product:

Species : Rabbit
Result : No eye irritation

Components:

thiamethoxam:

Species : Rabbit
Result : No eye irritation

lignosulfonic acid, ethoxylated, sodium salts:

Result : Eye irritation

sulfuric acid, mono-C12-14-alkyl esters, sodium salts:

Result : Risk of serious damage to eyes.

Respiratory or skin sensitization

Product:

Test Type : Maximization Test
Species : Guinea pig
Result : Did not cause sensitization on laboratory animals.

Components:

thiamethoxam:

Species : Guinea pig
Result : Did not cause sensitization on laboratory animals.

Germ cell mutagenicity

Components:

thiamethoxam:

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

Carcinogenicity

Components:

thiamethoxam:

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

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.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



ACTARA

Version	Revision Date:	SDS Number:	Date of last issue: 10/13/2020
3.0	08/14/2023	S13945202	Date of first issue: 07/22/2015

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

Components:

thiamethoxam:

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

STOT-single exposure

Components:

thiamethoxam:

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

lignosulfonic acid, ethoxylated, sodium salts:

Assessment : The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

STOT-repeated exposure

Components:

thiamethoxam:

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

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Chironomus riparius (harlequin fly)): 0.154 mg/l
Exposure time: 48 h

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 100 mg/l
Exposure time: 72 h

NOEC (Raphidocelis subcapitata (freshwater green alga)): 25 mg/l
End point: Growth rate
Exposure time: 72 h

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



ACTARA

Version	Revision Date:	SDS Number:	Date of last issue: 10/13/2020
3.0	08/14/2023	S13945202	Date of first issue: 07/22/2015

Components:

thiamethoxam:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
- EC50 (Cloeon sp.): 0.014 mg/l
Exposure time: 48 h
- EC50 (Chironomus riparius (harlequin fly)): 0.035 mg/l
Exposure time: 48 h
- Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): > 81.8 mg/l
Exposure time: 72 h
- NOEC (Raphidocelis subcapitata (freshwater green alga)): 81.8 mg/l
End point: Growth rate
Exposure time: 72 h
- Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 28 d
Test Type: flow-through test
- NOEC (Oncorhynchus mykiss (rainbow trout)): > 20 mg/l
Exposure time: 88 d
Test Type: Early-life Stage
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): 100 mg/l
Exposure time: 21 d
- NOEC (Chironomus riparius (Midge larvae)): 0.01 mg/l
Exposure time: 30 d
- Toxicity to microorganisms : EC50 (activated sludge): > 100 mg/l
Exposure time: 3 h

sulfuric acid, mono-C12-14-alkyl esters, sodium salts:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 3.6 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 4.7 mg/l
Exposure time: 48 h
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Invertebrates): 0.508 mg/l

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



ACTARA

Version	Revision Date:	SDS Number:	Date of last issue: 10/13/2020
3.0	08/14/2023	S13945202	Date of first issue: 07/22/2015

Persistence and degradability

Components:

thiamethoxam:

Biodegradability : Result: Not readily biodegradable.

Stability in water : Degradation half life: 11 d
Remarks: Product is not persistent.

silica:

Biodegradability : Result: Not readily biodegradable.

sulfuric acid, mono-C12-14-alkyl esters, sodium salts:

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

Components:

thiamethoxam:

Bioaccumulation : Remarks: Low bioaccumulation potential.

Partition coefficient: n-octanol/water : log Pow: -0.13 (77 °F / 25 °C)

Mobility in soil

Components:

thiamethoxam:

Distribution among environmental compartments : Remarks: Moderately mobile in soils

Stability in soil : Dissipation time: 51 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

Other adverse effects

Components:

thiamethoxam:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

silica:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

sulfuric acid, mono-C12-14-alkyl esters, sodium salts:

Results of PBT and vPvB : This substance is not considered to be persistent, bioaccumu-

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



ACTARA

Version	Revision Date:	SDS Number:	Date of last issue: 10/13/2020
3.0	08/14/2023	S13945202	Date of first issue: 07/22/2015

assessment lating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

- Waste from residues : Do not contaminate ponds, waterways or ditches with chemical or used container.
Do not dispose of waste into sewer.
Where possible recycling is preferred to disposal or incineration.
If recycling is not practicable, dispose of in compliance with local regulations.
- Contaminated packaging : Empty remaining contents.
Triple rinse containers.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

- UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (THIAMETHOXAM)
Class : 9
Packing group : III
Labels : 9
Environmentally hazardous : yes
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

IATA-DGR

- UN/ID No. : UN 3077
Proper shipping name : Environmentally hazardous substance, solid, n.o.s. (THIAMETHOXAM)
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 956
Packing instruction (passenger aircraft) : 956
Environmentally hazardous : yes
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



ACTARA

Version	Revision Date:	SDS Number:	Date of last issue: 10/13/2020
3.0	08/14/2023	S13945202	Date of first issue: 07/22/2015

IMDG-Code

UN number : UN 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (THIAMETHOXAM)
Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes
Remarks : This product can be subject to exemptions when packaged in single or combination packagings containing a net quantity per single or inner packaging of 5 L or less for liquids, or having a net mass of 5 kg or less for solids.

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

Not regulated as a dangerous good

Remarks : Shipment by ground under DOT is non-regulated; however it may be shipped per the applicable hazard classification to facilitate multi-modal transport involving ICAO (IATA) or IMO.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY 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 absorbed through skin.

Harmful if swallowed.

Harmful if inhaled.

Causes moderate eye irritation.

Avoid contact with skin, eyes or clothing.

Avoid breathing spray mist.

Avoid breathing dust.

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet.

Remove and wash contaminated clothing before re-use.

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.

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



ACTARA

Version 3.0 Revision Date: 08/14/2023 SDS Number: S13945202 Date of last issue: 10/13/2020
Date of first issue: 07/22/2015

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

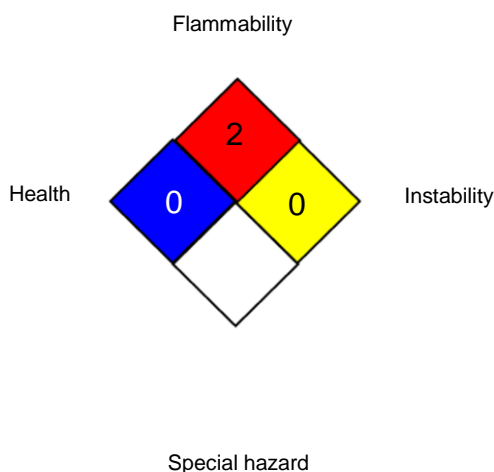
SARA 311/312 Hazards : Combustible dust

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:

HEALTH	/	0
FLAMMABILITY		2
PHYSICAL HAZARD		0

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

- ACGIH : USA. ACGIH Threshold Limit Values (TLV)
- NIOSH REL : USA. NIOSH Recommended Exposure Limits
- 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 Z-3 : USA. Occupational Exposure Limits (OSHA) - Table Z-3 Mineral Dusts
- Syngenta : Syngenta Occupational Exposure Limits
- ACGIH / TWA : 8-hour, time-weighted average
- NIOSH REL / TWA : Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
- OSHA P0 / TWA : 8-hour time weighted average
- OSHA Z-1 / TWA : 8-hour time weighted average
- OSHA Z-3 / TWA : 8-hour time weighted average
- Syngenta / TWA : Time weighted average

SAFETY DATA SHEET

according to the OSHA Hazard Communication Standard



ACTARA

Version	Revision Date:	SDS Number:	Date of last issue: 10/13/2020
3.0	08/14/2023	S13945202	Date of first issue: 07/22/2015

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 Development; 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; TECl - 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

Revision Date : 08/14/2023

Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

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.

US / Z8