HALEX GT

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
1.0	05/30/2023	S00037122796	

SECTION 1. IDENTIFICATION

Product name : HALEX GT
Design code : A15189J

Product Registration number : 100-1282

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
Emergency telephone : 1 800 888 8372

Recommended use of the chemical and restrictions on use

Recommended use : Herbicide

Restrictions on use : General Use Pesticide

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)
glyphosate-potassium	39600-42-5	25.0984
S-metolachlor	87392-12-9	20.4918
toluene-4-sulfonic acid	104-15-4	>= 1 - < 5
mesotrione	104206-82-8	2.0492
ethanamine, N,N-diethyl-	121-44-8	0 - < 0.1

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

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so.

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, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
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 : No special protective measures against fire required.
Avoid contact with skin and eyes.
When using do not eat, drink or smoke.
For personal protection see section 8.

Conditions for safe storage : No special storage conditions required.
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.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
S-metolachlor	87392-12-9	TWA	5 mg/m3	Syngenta
mesotrione	104206-82-8	TWA	5 mg/m3	Syngenta
ethanamine, N,N-diethyl-	121-44-8	TWA	0.5 ppm	ACGIH
		STEL	1 ppm	ACGIH
		TWA	25 ppm 100 mg/m3	OSHA Z-1
		STEL	15 ppm 60 mg/m3	OSHA P0
		TWA	10 ppm 40 mg/m3	OSHA P0

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 : No special protective equipment required.

Eye protection : No special protective equipment required.

Skin and body protection : No special protective equipment required.
Select skin and body protection based on the physical job requirements.

Protective measures : 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	:	liquid
Color	:	brown
Odor	:	sweet
Odor Threshold	:	No data available
pH	:	4.2 Concentration: 1 %w/v
Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Method: method not specified does not flash
Evaporation rate	:	No data available
Flammability (solid, gas)	:	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

Density	:	1.22 g/cm3 (77 °F / 25 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	1166 °F / 630 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Explosive properties	:	No data available
Oxidizing properties	:	No data available
Particle size	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	None reasonably foreseeable.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	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	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Ingestion
Inhalation
Skin contact
Eye contact

Acute toxicity

Product:

Acute oral toxicity	:	LD50 (Rat, female): > 5,000 mg/kg Remarks: Based on data from similar materials
Acute inhalation toxicity	:	LC50 (Rat, male and female): > 1.20 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Highest attainable concentration

Based on data from similar materials

Acute dermal toxicity : LD50 (Rat, male and female): > 6,147 mg/kg
Remarks: Based on data from similar materials

Components:

glyphosate-potassium:

Acute oral toxicity : LD50 (Rat, female): Calculated 2,111 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): Calculated > 4.95 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): Calculated > 2,400 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

S-metolachlor:

Acute oral toxicity : LD50 (Rat, male and female): 2,672 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.91 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Assessment: The substance or mixture has no acute inhalation toxicity

Acute dermal toxicity : LD50 (Rabbit, male and female): > 2,000 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

mesotrione:

Acute oral toxicity : LD50 (Rat, male and female): > 5,000 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 4.75 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

ethanamine, N,N-diethyl-:

Acute oral toxicity : LD50 (Rat): 730 mg/kg

Acute inhalation toxicity : LC50 (Rat): 7.22 mg/l
Exposure time: 4 h
Test atmosphere: vapor

Acute dermal toxicity : LD50 (Rat): 580 mg/kg

Skin corrosion/irritation

Product:

Species : Rabbit
Result : No skin irritation
Remarks : Based on data from similar materials

Components:

glyphosate-potassium:

Species : Rabbit
Result : No skin irritation

S-metolachlor:

Species : Rabbit
Result : No skin irritation

toluene-4-sulfonic acid:

Result : Irritating to skin.

mesotrione:

Species : Rabbit
Result : No skin irritation

ethanamine, N,N-diethyl-:

Species : Rabbit
Result : Corrosive after 3 minutes or less of exposure

Serious eye damage/eye irritation

Product:

Species : Rabbit
Result : No eye irritation
Remarks : Based on data from similar materials

Components:

glyphosate-potassium:

Species : Rabbit
Result : No eye irritation

S-metolachlor:

Species : Rabbit
Result : No eye irritation

toluene-4-sulfonic acid:

Result : Eye irritation

mesotrione:

Species : Rabbit
Result : No eye irritation

ethanamine, N,N-diethyl-:

Result : Risk of serious damage to eyes.

Respiratory or skin sensitization

Product:

Species : Guinea pig
Result : Did not cause sensitization on laboratory animals.
Remarks : Based on data from similar materials

Components:

glyphosate-potassium:

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

S-metolachlor:

Species : Guinea pig
Result : The product is a skin sensitizer, sub-category 1B.

mesotrione:

Species : Guinea pig
Result : Does not cause skin sensitization.

Germ cell mutagenicity

Components:

glyphosate-potassium:

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

S-metolachlor:

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

mesotrione:

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

ethanamine, N,N-diethyl-:

Germ cell mutagenicity - Assessment : In vitro tests did not show mutagenic effects

Carcinogenicity

Components:

glyphosate-potassium:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.

S-metolachlor:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

mesotrione:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

IARC	Group 1: Carcinogenic to humans sulfuric acid (Acid mists, strong inorganic)	7664-93-9
	Group 2A: Probably carcinogenic to humans glyphosate (Glyphosate) (N-(phosphonomethyl)glycine)	1071-83-6
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	Known to be human carcinogen sulfuric acid	7664-93-9

Reproductive toxicity

Components:

glyphosate-potassium:

Reproductive toxicity - Assessment : No toxicity to reproduction

S-metolachlor:

Reproductive toxicity - Assessment : Animal testing did not show any effects on fertility.

mesotrione:

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

ethanamine, N,N-diethyl-:

Reproductive toxicity - Assessment : No toxicity to reproduction

STOT-single exposure

Components:

toluene-4-sulfonic acid:

Assessment : The substance or mixture is classified as specific target organ

toxicant, single exposure, category 3 with respiratory tract irritation.

ethanamine, N,N-diethyl-:

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

STOT-repeated exposure

Components:

glyphosate-potassium:

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

S-metolachlor:

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

mesotrione:

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)): 54 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 69 mg/l
Exposure time: 48 h
Remarks: Based on data from similar materials

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.18 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.032 mg/l
Exposure time: 96 h
Remarks: Based on data from similar materials

ErC50 (Lemna gibba (gibbous duckweed)): 0.33 mg/l
Remarks: Based on data from similar materials

NOEC (Lemna gibba (gibbous duckweed)): 0.032 mg/l
End point: Frond growth

Remarks: Based on data from similar materials

Components:

glyphosate-potassium:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): Calculated > 1,511 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia): Calculated > 1,227 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): Calculated 66 mg/l Exposure time: 72 h

S-metolachlor:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 1.23 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Americamysis): 1.4 mg/l Exposure time: 96 h
Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.077 mg/l Exposure time: 96 h NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.016 mg/l End point: Growth rate Exposure time: 96 h EC50 (Lemna gibba (gibbous duckweed)): 0.023 mg/l Exposure time: 14 d NOEC (Lemna gibba (gibbous duckweed)): 0.0076 mg/l Exposure time: 14 d
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): 0.03 mg/l Exposure time: 35 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Americamysis): 0.13 mg/l Exposure time: 28 d
M-Factor (Chronic aquatic toxicity)	:	10

mesotrione:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 120 mg/l Exposure time: 96 h LC50 (Cyprinus carpio (Carp)): > 97.1 mg/l Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): 900 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): 12 mg/l Exposure time: 96 h NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.75 mg/l End point: Growth rate Exposure time: 96 h ErC50 (Lemna gibba (gibbous duckweed)): 0.0301 mg/l Exposure time: 7 d EC10 (Lemna gibba (gibbous duckweed)): 0.00187 mg/l End point: Growth rate Exposure time: 7 d
M-Factor (Acute aquatic toxicity)	:	10
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): 12.5 mg/l Exposure time: 36 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 180 mg/l Exposure time: 21 d
M-Factor (Chronic aquatic toxicity)	:	10

Ecotoxicology Assessment

Acute aquatic toxicity	:	Very toxic to aquatic life.

ethanamine, N,N-diethyl-:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): 36 mg/l Exposure time: 96 h
Toxicity to algae/aquatic plants	:	ErC50 (Raphidocelis subcapitata (freshwater green alga)): 9.8 mg/l Exposure time: 72 h

Persistence and degradability

Components:

S-metolachlor:

Biodegradability	:	Result: Not readily biodegradable.
Stability in water	:	Degradation half life: 53 - 147 d Remarks: Product is not persistent.

mesotrione:

Stability in water	:	Degradation half life: > 30 d (25 °C)

Remarks: Persistent in water.

ethanamine, N,N-diethyl-:

Biodegradability : Result: Readily biodegradable.

Bioaccumulative potential

Components:

S-metolachlor:

Bioaccumulation : Remarks: Does not bioaccumulate.

Partition coefficient: n-octanol/water : log Pow: 3.05 (77 °F / 25 °C)

mesotrione:

Bioaccumulation : Remarks: Low bioaccumulation potential.

Mobility in soil

Components:

S-metolachlor:

Distribution among environmental compartments : Remarks: Moderately mobile in soils

Stability in soil : Dissipation time: 12 - 46 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

mesotrione:

Distribution among environmental compartments : Remarks: Highly mobile in soils

Stability in soil : Dissipation time: 6 - 105 d
Percentage dissipation: 50 % (DT50)
Remarks: Product is not persistent.

Other adverse effects

Components:

mesotrione:

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).

ethanamine, N,N-diethyl-:

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).

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 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (S-METOLACHLOR, MESOTRIONE)
Class	:	9
Packing group	:	III
Labels	:	9

IATA-DGR

UN/ID No.	:	UN 3082
Proper shipping name	:	Environmentally hazardous substance, liquid, n.o.s. (S-METOLACHLOR, MESOTRIONE)
Class	:	9
Packing group	:	III
Labels	:	Miscellaneous
Packing instruction (cargo aircraft)	:	964
Packing instruction (passenger aircraft)	:	964
Environmentally hazardous	:	yes

IMDG-Code

UN number	:	UN 3082
Proper shipping name	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (S-METOLACHLOR, MESOTRIONE)
Class	:	9
Packing group	:	III
Labels	:	9
EmS Code	:	F-A, S-F
Marine pollutant	:	yes

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 inhaled.
Causes moderate eye irritation.
Avoid breathing spray mist.
Avoid contact with eyes or clothing.

SARA 304 Extremely Hazardous Substances Reportable Quantity

Listed substances in the product are at low enough levels to not be expected to exceed the 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 : 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.

California Prop. 65

WARNING: This product can expose you to chemicals including 50-00-0, naphthalene, glyphosate, sulfuric acid, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

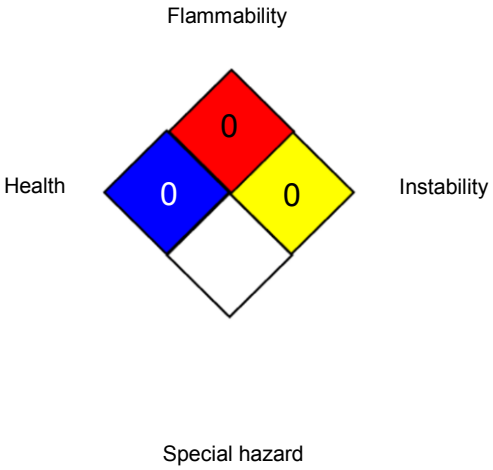
SECTION 16. OTHER INFORMATION

Further information

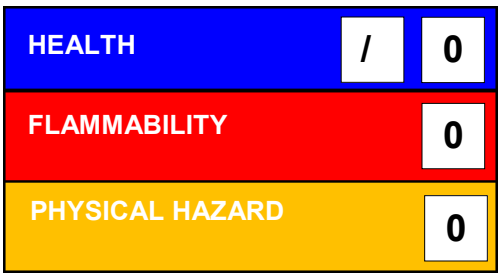
HALEX GT

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
1.0	05/30/2023	S00037122796	

NFPA 704:



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

ACGIH	:	USA. ACGIH Threshold Limit Values (TLV)
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
Syngenta	:	Syngenta Occupational Exposure Limits
ACGIH / TWA	:	8-hour, time-weighted average
ACGIH / STEL	:	Short-term exposure limit
OSHA P0 / TWA	:	8-hour time weighted average
OSHA P0 / STEL	:	Short-term exposure limit
OSHA Z-1 / TWA	:	8-hour time weighted average
Syngenta / TWA	:	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 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; 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

Revision Date : 05/30/2023

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