

FLEXSTAR GT 3.5

Version 2.0 Revision Date: 12/09/2022 SDS Number: S1430309698 This version replaces all previous versions.

SECTION 1. IDENTIFICATION

Product name : FLEXSTAR GT 3.5

Design code. : A17898A

Product Registration number : 100-1385

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

Not a hazardous substance or mixture.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Components

Chemical name	CAS-No.	Concentration (% w/w)
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FLEXSTAR GT 3.5

Version 2.0 Revision Date: 12/09/2022 SDS Number: S1430309698 This version replaces all previous versions.

glyphosate-diammonium	69254-40-6	27.1339
propane-1,2-diol	57-55-6	$\geq 10 - < 20$
D-Glucopyranose, oligomeric, decyl octyl glycosides	68515-73-1	$\geq 5 - < 10$
fomesafen-sodium	108731-70-0	5.923
benzenesulfonic acid, dimethyl-, sodium salt	1300-72-7	$\geq 1 - < 5$

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.

FLEXSTAR GT 3.5

Version 2.0 Revision Date: 12/09/2022 SDS Number: S1430309698 This version replaces all previous versions.

- 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
propane-1,2-diol	57-55-6	TWA	10 mg/m ³	US WEEL

FLEXSTAR GT 3.5

Version 2.0	Revision Date: 12/09/2022	SDS Number: S1430309698	This version replaces all previous versions.
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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 : No data available

Odor Threshold : No data available

pH : 6.0
Concentration: 10 % w/v

FLEXSTAR GT 3.5

Version 2.0 Revision Date: 12/09/2022 SDS Number: S1430309698 This version replaces all previous versions.

Melting point/range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	Method: Pensky-Martens closed cup 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	:	1.2 g/cm ³ (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	:	887 °F / 475 °C
Decomposition temperature	:	No data available
Viscosity		
Viscosity, kinematic	:	No data available
Explosive properties	:	Not explosive
Oxidizing properties	:	The substance or mixture is not classified as oxidizing.
Particle size	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	None reasonably foreseeable.
Chemical stability	:	Stable under normal conditions.

FLEXSTAR GT 3.5

Version 2.0 Revision Date: 12/09/2022 SDS Number: S1430309698 This version replaces all previous versions.

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

Acute inhalation toxicity : LC50 (Rat, male and female): > 2.69 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): > 5,050 mg/kg

Components:**fomesafen-sodium:**

Acute oral toxicity : LD50 (Rat, female): Calculated > 982 mg/kg

Acute inhalation toxicity : LC50 (Rat, male and female): > 1.38 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): > 982 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity

Skin corrosion/irritation**Product:**

Species : Rabbit
Result : No skin irritation

FLEXSTAR GT 3.5

Version 2.0 Revision Date: 12/09/2022 SDS Number: S1430309698 This version replaces all previous versions.

Components:**fomesafen-sodium:**

Species : Rabbit
Result : No skin irritation

Serious eye damage/eye irritation**Product:**

Species : Rabbit
Result : No eye irritation

Components:**D-Glucopyranose, oligomeric, decyl octyl glycosides:**

Species : Rabbit
Result : Irreversible effects on the eye

fomesafen-sodium:

Species : Rabbit
Result : Irreversible effects on the eye

benzenesulfonic acid, dimethyl-, sodium salt:

Result : Eye irritation

Respiratory or skin sensitization**Product:**

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

Components:**fomesafen-sodium:**

Test Type : mouse lymphoma cells
Species : Mouse
Result : Did not cause sensitization on laboratory animals.

Germ cell mutagenicity**Components:****glyphosate-diammonium:**

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

fomesafen-sodium:

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.
Remarks: Based on data from similar materials

FLEXSTAR GT 3.5

Version 2.0 Revision Date: 12/09/2022 SDS Number: S1430309698 This version replaces all previous versions.

Carcinogenicity

Components:

glyphosate-diammonium:

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

fomesafen-sodium:

Carcinogenicity - Assessment : No evidence of carcinogenicity in animal studies.
Remarks: Based on data from similar materials

Reproductive toxicity

Components:

glyphosate-diammonium:

Reproductive toxicity - Assessment : No toxicity to reproduction

fomesafen-sodium:

Reproductive toxicity - Assessment : No toxicity to reproduction
Remarks: Based on data from similar materials

STOT-repeated exposure

Components:

fomesafen-sodium:

Assessment : The substance or mixture is not classified as specific target organ toxicant, repeated exposure.
Remarks : Based on data from similar materials

Repeated dose toxicity

Components:

glyphosate-diammonium:

Remarks : No adverse effect has been observed in chronic toxicity tests.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Toxicity to fish	: LC50 (Danio rerio (zebra fish)): > 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
Toxicity to algae/aquatic	: ErC50 (Raphidocelis subcapitata (freshwater green alga)):

FLEXSTAR GT 3.5

Version 2.0 Revision Date: 12/09/2022 SDS Number: S1430309698 This version replaces all previous versions.

plants 1.16 mg/l
 Exposure time: 72 h

EC10 (Raphidocelis subcapitata (freshwater green alga)):
 0.22 mg/l
 End point: Growth rate
 Exposure time: 72 h

Components:

glyphosate-diammonium:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 86 mg/l
 Exposure time: 96 h
 The value is given in analogy to the following substances:
 glyphosate
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 780 mg/l
 Exposure time: 48 h
 The value is given in analogy to the following substances:
 glyphosate
- Toxicity to algae/aquatic plants : EC50 (Skeletonema costatum (marine diatom)): 1.3 mg/l
 Exposure time: 4 d
 The value is given in analogy to the following substances:
 glyphosate
- NOEC (green algae): > 1 mg/l
 The value is given in analogy to the following substances:
 glyphosate
- Toxicity to fish (Chronic toxicity) : NOEC (Fish): > 25.7 mg/l
 The value is given in analogy to the following substances:
 glyphosate
- Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Invertebrates): 50 mg/l
 The value is given in analogy to the following substances:
 glyphosate

Ecotoxicology Assessment

Acute aquatic toxicity : Toxic to aquatic life.

D-Glucopyranose, oligomeric, decyl octyl glycosides:

Toxicity to microorganisms : EC50 (Pseudomonas putida): > 560 mg/l

fomesafen-sodium:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 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)): > 96 mg/l
 Exposure time: 48 h
 Remarks: Based on data from similar materials

FLEXSTAR GT 3.5

Version 2.0 Revision Date: 12/09/2022 SDS Number: S1430309698 This version replaces all previous versions.

Toxicity to algae/aquatic plants : ErC50 (Raphidocelis subcapitata (freshwater green alga)): 0.54 mg/l
Exposure time: 72 h
Remarks: Information given is based on data obtained from similar substances.

NOEC (Raphidocelis subcapitata (freshwater green alga)): 0.023 mg/l
End point: Growth rate
Exposure time: 72 h
Remarks: Information given is based on data obtained from similar substances.

ErC50 (Lemna gibba (gibbous duckweed)): 0.29 mg/l
Exposure time: 14 d
Remarks: Information given is based on data obtained from similar substances.

NOEC (Lemna gibba (gibbous duckweed)): 0.03 mg/l
End point: Growth rate
Exposure time: 14 d
Remarks: Information given is based on data obtained from similar substances.

M-Factor (Acute aquatic toxicity) : 1

Toxicity to fish (Chronic toxicity) : NOEC (Cyprinodon variegatus (sheepshead minnow)): 2.1 mg/l
Exposure time: 33 d
Remarks: Information given is based on data obtained from similar substances.

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Americamysis): 0.69 mg/l
Exposure time: 28 d
Remarks: Information given is based on data obtained from similar substances.

M-Factor (Chronic aquatic toxicity) : 1

Persistence and degradability

Components:

fomesafen-sodium:

Stability in water : Remarks: No data available

Bioaccumulative potential

Components:

fomesafen-sodium:

Bioaccumulation : Remarks: No data available

FLEXSTAR GT 3.5

Version 2.0 Revision Date: 12/09/2022 SDS Number: S1430309698 This version replaces all previous versions.

Mobility in soil

Components:

glyphosate-diammonium:

Distribution among environmental compartments : Remarks: immobile

fomesafen-sodium:

Distribution among environmental compartments : Remarks: No data available

Stability in soil : Remarks: No data available

Other adverse effects

Components:

glyphosate-diammonium:

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).

fomesafen-sodium:

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

FLEXSTAR GT 3.5

Version 2.0 Revision Date: 12/09/2022 SDS Number: S1430309698 This version replaces all previous versions.

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

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s.
(FOMESAFEN-SODIUM)
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.
(FOMESAFEN-SODIUM)
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

Causes moderate eye irritation.
Avoid contact with eyes or clothing.

FLEXSTAR GT 3.5

Version 2.0 Revision Date: 12/09/2022 SDS Number: S1430309698 This version replaces all previous versions.

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

CERCLA Reportable Quantity

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

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

TSCA : On or in compliance with the active portion of the TSCA inventory

TSCA : On or in compliance with the active portion of the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

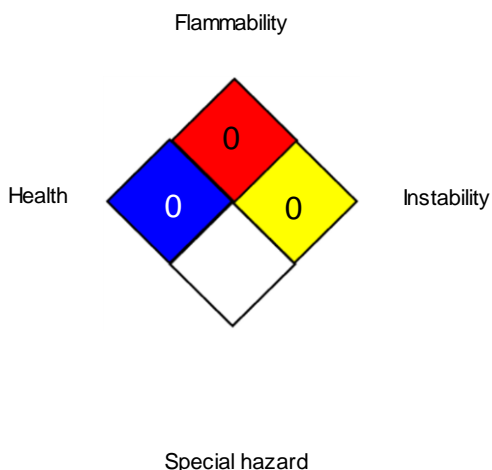
No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION**Further information**

FLEXSTAR GT 3.5

Version 2.0 Revision Date: 12/09/2022 SDS Number: S1430309698 This version replaces all previous versions.

NFPA 704:



HMIS® IV:

HEALTH	/	0
FLAMMABILITY		0
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

US WEEL : USA. Workplace Environmental Exposure Levels (WEEL)
 US WEEL / TWA : 8-hr TWA

AIC - 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

FLEXSTAR GT 3.5

Version	Revision Date:	SDS Number:	This version replaces all previous versions.
2.0	12/09/2022	S1430309698	

(United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Revision Date : 12/09/2022

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.

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