

**Eastman BioExtend(TM) 30HP Antioxidant Solution**

Customer PO: ZSAMPLE00000225957

Version	Revision Date:	SDS Number:	Date of last issue: 08/11/2020
1.2	03/03/2023	150000070151	Date of first issue: 09/06/2016
PRD		SDSUS / Z8 / 0001	ZSF / 0091619569 / 0004250541

**SECTION 1. IDENTIFICATION**

Product name : Eastman BioExtend(TM) 30HP Antioxidant Solution

Product code : P3186907

**Manufacturer or supplier's details**

Company name of supplier : Eastman Chemical Company

Address : 200 South Wilcox Drive  
Kingsport TN 37660-5280

Telephone : (423) 229-2000

Emergency telephone : CHEMTREC: +1-800-424-9300, +1-703-527-3887 CCN7321

**Recommended use of the chemical and restrictions on use**

Recommended use : Solvent

Restrictions on use : None known.

**SECTION 2. HAZARDS IDENTIFICATION****GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)**

Flammable liquids : Category 4

Acute toxicity (Oral) : Category 4

Acute toxicity (Dermal) : Category 4

Skin irritation : Category 2

Eye irritation : Category 2A

Skin sensitization : Category 1

**GHS label elements**

Hazard pictograms :



Signal Word : Warning

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Hazard Statements : H227 Combustible liquid.  
H302 + H312 Harmful if swallowed or in contact with skin.  
H315 Causes skin irritation.  
H317 May cause an allergic skin reaction.  
H319 Causes serious eye irritation.

Precautionary Statements : **Prevention:**  
P210 Keep away from heat/ sparks/ open flames/ hot surfaces.  
No smoking.  
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.  
P264 Wash skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P272 Contaminated work clothing must not be allowed out of the workplace.  
P280 Wear protective gloves/ eye protection/ face protection.

**Response:**  
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.  
P302 + P352 + P312 IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/ doctor if you feel unwell.  
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P337 + P313 If eye irritation persists: Get medical advice/ attention.  
P362 Take off contaminated clothing and wash before reuse.  
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage:**

P403 + P235 Store in a well-ventilated place. Keep cool.

**Disposal:**

P501 Dispose of contents/ container to an approved waste disposal plant.

**Other hazards**

None known.

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS****Components**

Chemical name	CAS-No.	Concentration (% w/w)
diethylene glycol monobutyl ether	112-34-5	>= 30 - < 50
2-tert-butylhydroquinone	1948-33-0	>= 20 - < 30
ethylene glycol monopropyl ether	2807-30-9	>= 20 - < 30
2,5-di-tert-butylhydroquinone	88-58-4	>= 0.1 - < 1

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Eastman is committed to the safety, health and environment of our employees, our customers, and the communities we operate within. As part of this commitment, Eastman's Safety Data Sheets (SDS) are prepared in accordance with all applicable national and local regulations. The compositions of our documents reflect these requirements which include, but are not limited to, requirements under the Globally Harmonized System of Classification and Labeling (GHS). These compositions commonly involve the use of ranges versus specific analytical values. If you require a composition that is more specific, please refer to the Certificate of Analysis, sales specification, or contact your Customer Service Representative.

**SECTION 4. FIRST AID MEASURES**

If inhaled	: Move to fresh air. Treat symptomatically. If symptoms persist, call a physician.
In case of skin contact	: Wash off immediately with plenty of water for at least 15 minutes. Take off all contaminated clothing immediately. Wash contaminated clothing before re-use. Get medical attention.
In case of eye contact	: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical advice/ attention.
If swallowed	: Seek medical advice.
Most important symptoms and effects, both acute and delayed	: Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation.
Notes to physician	: Treat symptomatically.

**SECTION 5. FIRE-FIGHTING MEASURES**

Suitable extinguishing media	: Use water spray to extinguish. Carbon dioxide (CO2) Dry chemical Foam
Unsuitable extinguishing media	: None known.
Hazardous combustion products	: No hazardous combustion products are known
Further information	: Combustible liquid and vapor.
Special protective equipment	: Wear an approved positive pressure self-contained breathing

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for fire-fighters

apparatus in addition to standard fire fighting gear.

**SECTION 6. ACCIDENTAL RELEASE MEASURES**

Personal precautions, protective equipment and emergency procedures : Wear appropriate personal protective equipment.

Environmental precautions : Avoid release to the environment.

Methods and materials for containment and cleaning up : Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13).

**SECTION 7. HANDLING AND STORAGE**

Advice on safe handling : Do not breathe vapors or spray mist.  
Avoid contact with skin, eyes and clothing.  
Do not taste or swallow.  
Use only with adequate ventilation.  
Wash thoroughly after handling.

Conditions for safe storage : Keep container tightly closed.

**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Ingredients with workplace control parameters**

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
diethylene glycol monobutyl ether	112-34-5	TWA (Inhalable fraction and vapor)	10 ppm	ACGIH
ethylene glycol monopropyl ether	2807-30-9	TWA	25 ppm	Eastman Chemical Company occupational exposure limit

**Engineering measures** : Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level.

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**Personal protective equipment**

Respiratory protection : If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Hand protection

Remarks : Wear suitable gloves.

Eye protection : Safety glasses with side-shields

Hygiene measures : Handle in accordance with good industrial hygiene and safety practice.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

Appearance : liquid

Color : dark yellow

Odor : slight

Odor Threshold : not determined

pH : not determined

Melting point/freezing point : not determined

Boiling point/boiling range : 356 °F / 180 °C

Flash point : 163 °F / 73 °C

Method: Seta closed cup

Evaporation rate : not determined

Flammability (solid, gas) : Not applicable

Upper explosion limit / Upper flammability limit : not determined

Lower explosion limit / Lower flammability limit : not determined

Vapor pressure : not determined

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Relative vapor density	:	not determined
Relative density	:	0.9846 (77 °F / 25 °C)
Solubility(ies)		
Water solubility	:	slightly soluble
Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	not determined
Decomposition temperature	:	Thermal stability not tested. Low stability hazard expected at normal operating temperatures.
Viscosity		
Viscosity, dynamic	:	not determined
Viscosity, kinematic	:	not determined
Explosive properties	:	No data available
Oxidizing properties	:	No data available

**SECTION 10. STABILITY AND REACTIVITY**

Reactivity	:	Stable
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	None known.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents
Hazardous decomposition products	:	Carbon dioxide (CO <sub>2</sub> ) Carbon monoxide

**SECTION 11. TOXICOLOGICAL INFORMATION****Acute toxicity**

Harmful if swallowed or in contact with skin.

**Product:**

Acute oral toxicity	:	Remarks: No data available
Acute inhalation toxicity	:	Remarks: No data available
Acute dermal toxicity	:	Remarks: No data available

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**Components:****diethylene glycol monobutyl ether:**

Acute oral toxicity : LD50 Oral (Rat): 4,500 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 29 ppm  
Exposure time: 2 h  
Test atmosphere: Aerosol

Acute dermal toxicity : LD50 Dermal (Rabbit): 2,764 mg/kg

**2-tert-butylhydroquinone:**

Acute oral toxicity : LD50 Oral (Rat, male): 951 mg/kg  
LD50 Oral (Rat, female): 1,131 mg/kg

**2,5-di-tert-butylhydroquinone:**

Acute oral toxicity : LD50 Oral (Rat): 50 - 300 mg/kg

Acute dermal toxicity : LD50 Dermal (Guinea pig): > 21,000 mg/kg  
Remarks: (highest dose tested)

**Skin corrosion/irritation**

Causes skin irritation.

**Product:**

Remarks : No data available

**Components:****diethylene glycol monobutyl ether:**

Species : Rabbit  
Exposure time : 4 h  
Result : slight

**2-tert-butylhydroquinone:**

Species : Guinea pig  
Exposure time : 24 h  
Result : slight

**2,5-di-tert-butylhydroquinone:**

Species : Rabbit  
Exposure time : 24 h  
Result : slight to moderate

**Serious eye damage/eye irritation**

Causes serious eye irritation.

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**Product:**

Remarks : No data available

**Components:****diethylene glycol monobutyl ether:**

Species	:	Rabbit
Result	:	slight
Exposure time	:	24 h

**2-tert-butylhydroquinone:**

Species	:	Rabbit
Result	:	irritating

**2,5-di-tert-butylhydroquinone:**

Species	:	Rabbit
Result	:	strong
Remarks	:	Read-across from a similar material

**Respiratory or skin sensitization****Skin sensitization**

May cause an allergic skin reaction.

**Respiratory sensitization**

Not classified based on available information.

**Product:**

Remarks : No data available

**Components:****diethylene glycol monobutyl ether:**

Test Type	:	Skin Sensitization
Species	:	Guinea pig
Result	:	non-sensitizing

**2-tert-butylhydroquinone:**

Test Type	:	Skin Sensitization
Species	:	Guinea pig
Result	:	slight

**2,5-di-tert-butylhydroquinone:**

Test Type	:	Skin Sensitization
Species	:	Guinea pig
Result	:	non-sensitizing



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**Germ cell mutagenicity**

Not classified based on available information.

**Components:****diethylene glycol monobutyl ether:**

Genotoxicity in vitro : Test Type: Mutagenicity - Bacterial  
Metabolic activation: +/- activation  
Result: negative

Test Type: Mutagenicity - Mammalian  
Metabolic activation: +/- activation  
Result: negative

Genotoxicity in vivo : Species: Mouse  
Application Route: oral: gavage  
Result: negative

**Carcinogenicity**

Not classified based on available information.

**Product:**

Remarks : This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.

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

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

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

**Reproductive toxicity**

Not classified based on available information.

**Product:**

Effects on fertility : Remarks: No data available

**STOT-single exposure**

Not classified based on available information.

**Product:**

Remarks : No data available

**STOT-repeated exposure**

Not classified based on available information.

**Product:**

Remarks : No data available

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**Repeated dose toxicity****Components:****diethylene glycol monobutyl ether:**

Species	: Rat
NOAEL	: 250 mg/kg
Application Route	: Ingestion
Exposure time	: 90 d

Species	: Rat
NOAEL	: > 2,000 mg/kg
Application Route	: Dermal Study
Exposure time	: 90 d
Remarks	: (highest dose tested)

Species	: Rat
NOAEL	: > 0.094 mg/l
Application Route	: Inhalation study:
Exposure time	: 90 d

**Aspiration toxicity**

Not classified based on available information.

**Product:**

No data available

**Experience with human exposure****Product:**

Inhalation	: Remarks: None known.
Skin contact	: Remarks: Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.
Eye contact	: Remarks: Causes serious eye irritation.
Ingestion	: Remarks: None known.

**Further information****Product:**

Remarks	: None known.
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**SECTION 12. ECOLOGICAL INFORMATION****Ecotoxicity****Components:****diethylene glycol monobutyl ether:**

Toxicity to fish	:	LC50 (Fish): 1,300 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 plants	:	EC50 (Chlorella pyrenoidosa): > 100 mg/l Exposure time: 96 h

**2-tert-butylhydroquinone:**

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 0.6 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 3.2 mg/l Exposure time: 96 h

**2,5-di-tert-butylhydroquinone:**

Toxicity to fish	:	LC50 (Pimephales promelas (fathead minnow)): 0.6 mg/l Exposure time: 96 h Remarks: Read-across from a similar material
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): 3.2 mg/l Exposure time: 96 h Remarks: Read-across from a similar material
		LC50 (snail): 32 mg/l Exposure time: 96 h Remarks: Read-across from a similar material
		LC50 (flatworm): 3.2 mg/l Exposure time: 96 h Remarks: Read-across from a similar material

**Persistence and degradability****Components:****diethylene glycol monobutyl ether:**

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 85 % Exposure time: 28 d Method: Ready Biodegradability: Modified MITI Test (I)
Biochemical Oxygen De-	:	BOD-5:

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mand (BOD) 250 mg/g

Chemical Oxygen Demand (COD) : 2,080 mg/g

**2-tert-butylhydroquinone:**Biodegradability : Concentration: 20 mg/l  
Biodegradation: 19 %  
Exposure time: 28 dBiochemical Oxygen Demand (BOD) : BOD-5:  
70 mg/gBOD-20:  
2,000 mg/g

Chemical Oxygen Demand (COD) : 2,200 mg/g

ThOD : 2,450 mg/g

**ethylene glycol monopropyl ether:**

Biodegradability : Result: Readily biodegradable.

Biochemical Oxygen Demand (BOD) : BOD-5:  
1,200 mg/lBOD-20:  
1,500 mg/l

Chemical Oxygen Demand (COD) : 2.04 g/g

ThOD : 1.98 g/g

**2,5-di-tert-butylhydroquinone:**Biodegradability : Concentration: 20 mg/l  
Biodegradation: 19 %  
Exposure time: 28 d  
Remarks: Read-across from a similar material**Bioaccumulative potential****Components:****ethylene glycol monopropyl ether:**Partition coefficient: n-octanol/water : Pow: 1.1  
log Pow: 0.05

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**Mobility in soil**

No data available

**Other adverse effects****Components:****ethylene glycol monopropyl ether:**

Results of PBT and vPvB assessment : Not fulfilling vPvB (very persistent, very bioaccumulative) criteria.

**SECTION 13. DISPOSAL CONSIDERATIONS****Disposal methods**

Waste from residues : Dispose of in accordance with local regulations.

**SECTION 14. TRANSPORT INFORMATION****International Regulations****IATA-DGR**

UN/ID No. : UN 3082  
Proper shipping name : Environmentally hazardous substance, liquid, n.o.s. (2-tert-butylhydroquinone)  
Class : 9  
Packing group : III  
Labels : Miscellaneous  
Packing instruction (cargo aircraft) : 964  
Packing instruction (passenger aircraft) : 964

**IMDG-Code**

UN number : UN 3082  
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-tert-butylhydroquinone)  
Class : 9  
Packing group : III  
Labels : 9  
EmS Code : F-A, S-F  
Marine pollutant : no

**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

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**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****CERCLA Reportable Quantity**

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

**SARA 304 Extremely Hazardous Substances Reportable Quantity**

This material does not contain any components with a section 304 EHS RQ.

**SARA 302 Extremely Hazardous Substances Threshold Planning Quantity**

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

**SARA 311/312 Hazards** : Flammable (gases, aerosols, liquids, or solids)  
Acute toxicity (any route of exposure)  
Respiratory or skin sensitization  
Skin corrosion or irritation  
Serious eye damage or eye irritation

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

diethylene glycol 112-34-5  
monobutyl ether

ethylene glycol 2807-30-9  
monopropyl ether

**California Prop. 65**

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

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

TCSI	: On the inventory, or in compliance with the inventory
TSCA	: All substances listed as active on the TSCA inventory
AIIC	: On the inventory, or in compliance with the inventory
DSL	: All components of this product are on the Canadian DSL
ENCS	: On the inventory, or in compliance with the inventory
ISHL	: On the inventory, or in compliance with the inventory
KECI	: On the inventory, or in compliance with the inventory

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PICCS : On the inventory, or in compliance with the inventory

IECSC : On the inventory, or in compliance with the inventory

### TSCA list

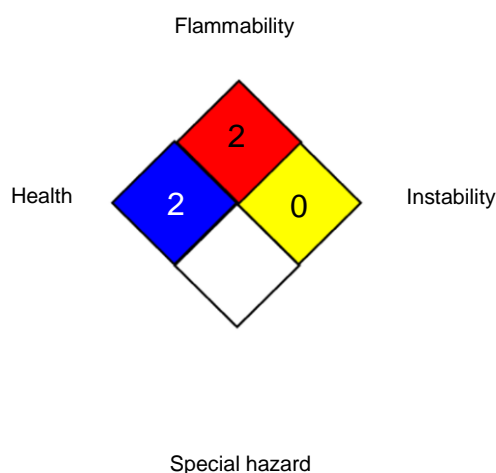
No substances are subject to a Significant New Use Rule.

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

## SECTION 16. OTHER INFORMATION

### Further information

#### NFPA 704:



#### HMIS® IV:

HEALTH	/	2
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)  
 ACGIH / TWA : 8-hour, time-weighted average

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime

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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 : 03/03/2023

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