SAFETY DATA SHEET

VENTANA anti-mLH1 (M1) Mouse Monoclonal Primary Antibody

Version	Revision Date:	Date of last issue: 03-09-2025
1.1	06-24-2025	Date of first issue: 03-09-2025

SECTION 1. IDENTIFICATION

Product name : VENTANA anti-mLH1 (M1) Mouse Monoclonal Primary Antibody

Product code : 07862237001

Manufacturer or supplier's details

Company name of supplier : Roche Diagnostics
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Address : 9115 Hague Road
Indianapolis, IN 46250
USA

Telephone : 1-800-428-5074

Emergency telephone
In case of emergencies: : CHEMTREC 1-800-424-9300 (U.S. or Canada)
1-703-527-3887 (International)

Recommended use of the chemical and restrictions on use

Recommended use : Laboratory chemicals
Refer to product literature for further details.

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)
Caseins	9000-71-9	>= 1 - < 5
L-Ascorbic acid	50-81-7	< 0.1
L-Tryptophan	73-22-3	< 0.1
Vitamin B12	68-19-9	< 0.1

L-Ornithine, hydrochloride (1:1)	3184-13-2	< 0.1
Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride (1:1)	67-48-1	< 0.1

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice	:	Do not leave the victim unattended.
If inhaled	:	If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of skin contact	:	Wash off with soap and water.
In case of eye contact	:	Remove contact lenses. Protect unharmed eye. If eye irritation persists, consult a specialist.
If swallowed	:	Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.
Most important symptoms and effects, both acute and delayed	:	None known.
Protection of first-aiders	:	First Aid responders should pay attention to self-protection and use the recommended protective clothing
Notes to physician	:	Treat symptomatically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during fire fighting	:	No information available.
Hazardous combustion products	:	Carbon oxides

Further information	:	Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Wipe up with absorbent material (e.g. cloth, fleece). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area.
Conditions for safe storage	:	Electrical installations / working materials must comply with the technological safety standards.
Materials to avoid	:	No materials to be especially mentioned.
Further information on storage stability	:	No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
L-Ascorbic acid	50-81-7	IOEL	10 mg/m3	Roche Industrial Hygiene Committee (RIHC)

L-Tryptophan	73-22-3	IOEL	10 mg/m3	Roche Industrial Hygiene Committee (RIHC)
Vitamin B12	68-19-9	IOEL	0.6 mg/m3	Roche Industrial Hygiene Committee (RIHC)
L-Ornithine, hydrochloride (1:1)	3184-13-2	IOEL	10 mg/m3	Roche Industrial Hygiene Committee (RIHC)
		IOEL	10 mg/m3	Roche Industrial Hygiene Committee (RIHC)
Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride (1:1)	67-48-1	IOEL	10 mg/m3	Roche Industrial Hygiene Committee (RIHC)

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

In case of contact through splashing:

Material	:	Nitrile rubber
Break through time	:	> 30 min
Glove thickness	:	> 0.11 mm

In case of full contact:

Material	:	butyl-rubber
Break through time	:	> 480 min
Glove thickness	:	> 0.4 mm

Remarks : Wear appropriate protective gloves to prevent skin contact. Replace torn or punctured gloves promptly.

Eye protection	:	Safety glasses
Skin and body protection	:	Protective suit
Hygiene measures	:	General industrial hygiene practice.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Color	:	colorless, clear
Odor	:	odorless
Odor Threshold	:	No data available
pH	:	7.5 Concentration: 100 %
Melting point/ range	:	No data available
Boiling point/boiling range	:	No data available
Flash point	:	does not flash
Evaporation rate	:	No data available
Self-ignition	:	Not applicable
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
Relative density	:	No data available
Density	:	1.016 g/cm3 (68 °F / 20 °C, 1,013 hPa)
Solubility(ies)		
Water solubility	:	completely miscible
Solubility in other solvents	:	No data available

Partition coefficient: n-octanol/water	:	No data available
Autoignition temperature	:	No data available
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 characteristics		
Particle Size Distribution	:	Not applicable

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	Stable under recommended storage conditions. No hazards to be specially mentioned.
Conditions to avoid	:	No data available
Incompatible materials	:	Not applicable
Hazardous decomposition products	:	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Not classified due to lack of data.

Components:

L-Ascorbic acid:

Acute oral toxicity	:	LD50 Oral (Rat): 11,900 mg/kg
		LD50 Oral (Mouse): 8,000 mg/kg

L-Tryptophan:

Acute oral toxicity : LD50 Oral (Rat): > 16,000 mg/kg

Vitamin B12:

Acute oral toxicity : LD50 Oral (Mouse): > 5,000 mg/kg

L-Ornithine, hydrochloride (1:1):

Acute oral toxicity : LD50 Oral (Rat): 10,000 mg/kg

Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride (1:1):

Acute oral toxicity : LD50 Oral (Rat): 3,400 mg/kg

LD50 Oral (Mouse): 3,900 mg/kg

Acute toxicity estimate: > 5,000 mg/kg
Method: Expert judgment

Acute inhalation toxicity : Acute toxicity estimate: > 30 mg/l
Test atmosphere: dust/mist
Method: Expert judgment

Acute dermal toxicity : Acute toxicity estimate: > 5,000 mg/kg
Method: Expert judgment

Skin corrosion/irritation

Not classified due to lack of data.

Components:

L-Ascorbic acid:

Remarks : This information is not available.

L-Tryptophan:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation

Vitamin B12:

Remarks : May cause skin irritation in susceptible persons.

Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride (1:1):

Remarks : This information is not available.

Serious eye damage/eye irritation

Not classified due to lack of data.

Components:

L-Tryptophan:

Species : Rabbit
Result : No eye irritation
Method : OECD Test Guideline 405

Vitamin B12:

Remarks : May irritate eyes.

L-Ornithine, hydrochloride (1:1):

Result : Irritating to eyes.

Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride (1:1):

Remarks : This information is not available.

Respiratory or skin sensitization

Skin sensitization

Not classified due to lack of data.

Respiratory sensitization

Not classified due to lack of data.

Components:

L-Tryptophan:

Test Type	:	Local lymph node assay (LLNA)
Species	:	Mouse
Method	:	OECD Test Guideline 429
Result	:	Does not cause skin sensitization.

Vitamin B12:

Remarks	:	May cause sensitization of susceptible persons.

Germ cell mutagenicity

Not classified due to lack of data.

Components:

L-Tryptophan:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Test system: Salmonella typhimurium Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative

Vitamin B12:

Genotoxicity in vitro	:	Test Type: reverse mutation assay Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative

Carcinogenicity

Not classified due to lack of data.

Components:

L-Ascorbic acid:

Remarks	:	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.

L-Tryptophan:

Remarks	:	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.

L-Ornithine, hydrochloride (1:1):

Remarks : 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.

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 due to lack of data.

STOT-single exposure

Not classified due to lack of data.

Components:

Caseins:

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

L-Ascorbic acid:

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

L-Tryptophan:

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

Vitamin B12:

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

STOT-repeated exposure

Not classified due to lack of data.

Components:

Caseins:

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

L-Ascorbic acid:

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

L-Tryptophan:

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

Vitamin B12:

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

Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride (1:1):

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

Repeated dose toxicity

Components:

L-Tryptophan:

Species	:	Rat, female
NOAEL	:	ca. 3764 mg/kg
Application Route	:	Oral
Exposure time	:	90 d
Dose	:	0, 401, 1214 or 3946
Method	:	OECD Test Guideline 408
GLP	:	yes

Aspiration toxicity

Not classified due to lack of data.

Components:

L-Ascorbic acid:

No data available

L-Tryptophan:

No data available

Vitamin B12:

No data available

Further information

Product:

Remarks : No data available

Components:

Vitamin B12:

Remarks : May be harmful by inhalation, ingestion, skin adsorption.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

Caseins:

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to the environment : No data available

L-Ascorbic acid:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 1,020 mg/l

Exposure time: 96 h
Method: OECD Test Guideline 203

Ecotoxicology Assessment

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to the environment : No data available

L-Tryptophan:

Ecotoxicology Assessment

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to the environment : No data available

Vitamin B12:

Ecotoxicology Assessment

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to the environment : No data available

Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride (1:1):

Toxicity to fish : LC50 (Fish): > 100 mg/l
Exposure time: 96 h

Ecotoxicology Assessment

Acute aquatic toxicity : This product has no known ecotoxicological effects.

Chronic aquatic toxicity : This product has no known ecotoxicological effects.

Toxicity Data on Soil : Not expected to adsorb on soil.

Other organisms relevant to the environment : No data available

Persistence and degradability

Components:

L-Ascorbic acid:

Biodegradability : Biodegradation: 97 %
Exposure time: 5 d
Method: OECD Test Guideline 302B

Biodegradation: 100 %

Exposure time: 150 d
Method: OECD Test Guideline 302B

Vitamin B12:

Biodegradability : Result: Not readily biodegradable.

Bioaccumulative potential

Components:

Caseins:

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

L-Ascorbic acid:

Partition coefficient: n-octanol/water : log Pow: -2.15 (73 °F / 23 °C)

L-Tryptophan:

Partition coefficient: n-octanol/water : log Pow: -1.05

Vitamin B12:

Bioaccumulation : Species: Fish
Bioconcentration factor (BCF): 3
Exposure time: 3 d

Partition coefficient: n-octanol/water : log Pow: ca. 3.57

L-Ornithine, hydrochloride (1:1):

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

Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride (1:1):

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

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks: This product neither contains, nor was manufac-

tured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : No data available

Components:

Ethanaminium, 2-hydroxy-N,N,N-trimethyl-, chloride (1:1):

Adsorbed organic bound halogens (AOX) : Remarks: Not applicable

Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Can be disposed as waste water, when in compliance with local regulations.

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

Domestic regulation

49 CFR
Not regulated as a dangerous good

Special precautions for user

Remarks : Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR

SECTION 15. REGULATORY INFORMATION

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

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.

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
This product does not contain any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489).

Clean Water Act

This product does not contain any Hazardous Substances listed under the U.S. CleanWater Act, Section 311, Table 116.4A.
This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.
This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

US State Regulations

Massachusetts Right To Know

Sodium azide (Na(N3))	26628-22-8

Pennsylvania Right To Know

Water	7732-18-5
Sodium azide (Na(N3))	26628-22-8

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Vitamin B12	68-19-9

Washington Chemicals of High Concern

Vitamin B12	68-19-9

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

AIIC	:	Not in compliance with the inventory
DSL	:	This product contains the following components that are not on the Canadian DSL nor NDSL. Serum, Calf L-Histidine monohydrochloride monohydrate L-Tyrosine disodiumsalt dihydrate 2'-Deoxyadenosine monohydrate N-methyltaurine Uridine-5'-diphospho-glucuronate, Disodium salt (UDP-glucuronate) Tetramethylrhodamin-6-2'-desoxy-uridin-5-triphosphate Globulins, blood plasma Coenzyme A D-Glucuronic acid Riboflavin 5'-(trihydrogen diphosphate), P'.->.5'-ester with adenosine
NZIoC	:	On the inventory, or in compliance with the inventory
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory
KECI	:	Not in compliance with the inventory
PICCS	:	Not in compliance with the inventory
IECSC	:	Not in compliance with the inventory
TCSI	:	Not in compliance with the inventory
TSCA	:	Product contains substance(s) not active and not listed on TSCA inventory.
TECI	:	Not in compliance with the inventory

TSCA list

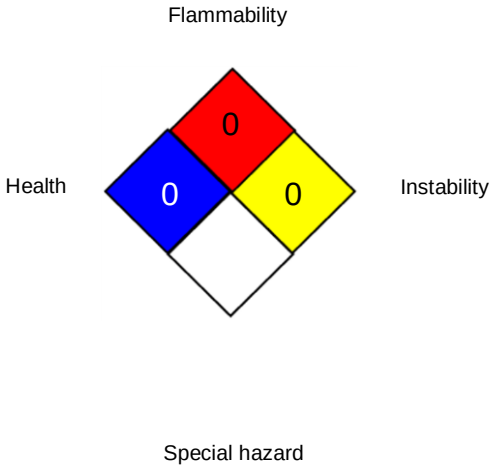
No substances are subject to a Significant New Use Rule.

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

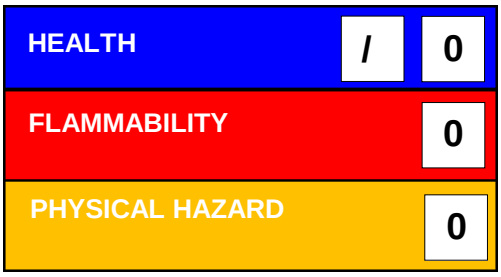
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



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

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 : 06-24-2025

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 / 2404