

GLYCEROL (1,1,2,3,3-D5) Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations Date of issue: 01/07/2011

DLM-1229-CTM

Revision date: 16/11/2017

Supersedes: 17/02/2012

Version: 3.0

SECTION 1: Identification of the subs	stance/mixture and of the company/undertaking		
1.1. Product identifier			
Product form	: Substance		
Substance name	: GLYCEROL (1,1,2,3,3-D5)		
EC No	: 200-289-5 (Unlabeled)		
CAS No	: 62502-71-0		
Product code	: DLM-1229-CTM		
Formula	: (HOCD2)2CDOH		
Synonyms	: 1,2,3-Propanetriol / Glycerin		
1.2. Relevant identified uses of the subst	ance or mixture and uses advised against		
1.2.1. Relevant identified uses			
Main use category	: Professional use		
Industrial/Professional use spec	: For professional use only		
1.2.2. Uses advised against			
No additional information available			
	ate sheet		
1.3. Details of the supplier of the safety d Cambridge Isotope Laboratories, Inc.	ata sneet		
50 Frontage Road			
Andover, MA 01810			
USA			
USA: 1-800-322-1174 Int: 1-978-749-8000 cilsales@isotope.com www.isotope.com			
Emergency telephone number			
Emergency numbers:			
Chemtrec: 1-800-424-9300 (24 hours) International: 1-703-741-5970 (24 hours)			
SECTION 2: Hazards identification			
2.1. Classification of the substance or mi	xture		
Classification according to Regulation (EC) No Not classified	b. 1272/2008 [CLP]		
TAOL ORDONICA			
Classification according to Directive 67/548/EB Not classified	EC [DSD] or 1999/45/EC [DPD]		
GHS-US classification			
Not classified			
Adverse physicochemical, human health and environmental effects			
No additional information available			
2.2. Label elements			
Labelling according to Regulation (EC) No. 12	72/2008 [CLP]		
No labelling applicable			

GHS-US labelling

No labelling applicable

Other hazards 2.3.

No additional information available

16/11/2017

GLYCEROL (1,1,2,3,3-D5) DLM-1229-CTM

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 3: Composition/information on ingredients				
3.1. Substances				
Name	Product identifier	%	Classification according to Directive 67/548/EEC	
GLYCEROL (1,1,2,3,3-D5)	(CAS No) 62502-71-0 (EC No) 200-289-5 (Unlabeled)	100	Not classified	
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]	
GLYCEROL (1,1,2,3,3-D5)	(CAS No) 62502-71-0 (EC No) 200-289-5 (Unlabeled)	100	Not classified	

Full text of R- and H-statements: see section 16

Name	Product identifier	%	GHS-US classification
GLYCEROL (1,1,2,3,3-D5) (Main constituent)	(CAS No) 62502-71-0	100	Not classified

Full text of H-statements: see section 16

3.2. Mixtures	
Not applicable	
SECTION 4: First aid measures	
4.1. Description of first aid measures	
First-aid measures general	: If you feel unwell, seek medical advice (show the label where possible). Evacuate danger area.
First-aid measures after inhalation	: When symptoms occur: go into open air and ventilate suspected area. If not breathing, give artificial respiration. Get medical advice/attention.
First-aid measures after skin contact	: Wash with plenty of soap and water. Get immediate medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes.
First-aid measures after ingestion	: Never give anything by mouth to an unconscious person. Rinse mouth out with water. Get medical advice/attention.
4.2. Most important symptoms and ef	fects, both acute and delayed
Symptoms/injuries after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/injuries after skin contact	: May be harmful in contact with skin. May cause moderate irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: May be harmful if swallowed.
4.3. Indication of any immediate medi	cal attention and special treatment needed
No additional information available	
SECTION 5: Fire-fighting measure	S
5.1. Extinguishing media	
Suitable extinguishing media	: Water spray. dry chemical powder, alcohol-resistant foam, carbon dioxide (CO2).
5.2. Special hazards arising from the	substance or mixture
Reactivity	: Hygroscopic.
5.3. Advice for firefighters	
Firefighting instructions	: Fight fire with normal precautions from a reasonable distance. Wear a self contained breathing apparatus. Do not enter fire area without proper protective equipment, including respiratory protection.

		wear recommended personal protective equipment.
SECTION	ON 6: Accidental release meas	sures
6.1.	Personal precautions, protective eq	uipment and emergency procedures
6.1.1.	For non-emergency personnel	
Emergen	cy procedures	: Avoid breathing vapours, mist, gas. Avoid dust formation. Use personal protective equipment as required. Ensure adequate air ventilation.
6.1.2.	For emergency responders	
Protectiv	e equipment	: Wear recommended personal protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
6.2.	Environmental precautions	
Prevent e	entry to sewers and public waters. Do no	ot allow to enter drains or water courses. Avoid release to the environment.

4 . 4 .

: Do not enter fire area without proper protective equipment, including respiratory protection.

40.04

Protection during firefighting

GLYCEROL (1,1,2,3,3-D5)

DLM-1229-CTM

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

For containment : Collect spillage. Soku pwith inert absorbent material (for example sand, sawdust, a universal binder, silea gel). Small quantities of liquid spil: take up in non-combustible absorbent material and shore line container for disposal. Wathods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation. A. Reference to other socitions : This material and its container of disposal. Wathods Information available : Provide adequate ventilation to minimize dust and/or vapour concentrations. Precautions for safe handling : Provide adequate ventilation to minimize dust and/or vapour concentrations. repeative information available : Wash hands and other exposed areas with mild scap and water before eating, drinking or smoking and when leaving work. 7.2. Conditions for safe storage, including any incompatibilities : Store in a well-ventilated place. Keep container tightly closed. 7.3. Specific and use(s) : Store at roon temperature away from light and moisture. : Store at roon temperature away from light and moisture. 7.4.1. Control parameters : Store in a well-ventilated place. Keep container tightly closed. : Store in a well-ventilated place. 61/1000 (11,2,3,3-D5) (ce502-71-0) : Store at roon temperature away from light and moisture. : Store in a well-ventilated place. USA OSHA OSHA PEL (TWA) (mg/m ³) 10 mg/m ³ USA. ACGH Threshold Limit Values (TLV)	26, 2012 / Rules and Regulations			
binder, silica gel). Small quantities of liquid split: take up in non-combustible absorbent material and shovel into container for disposal. Wethods for cleaning up : This material and its container must be disposed of in a safe way, and as per local legislation. 6.4. Reference to other socials No additional information available SECTION 7: Handling and storage 7.1. Procutions for safe handling Precautions for safe handling : Provide adequate ventilation to minimize dust and/or vapour concentrations. Hydre measures : Wash hands and other exposed areas with mild scap and water before eating, drinking or smoking and when leaving work. 7.2. Conditions for safe storage, including any incompatibilities Technical measures : Store in a well-ventilated place. Keep container tightly closed. Storage conditions : Store at room temperature away from light and moisture. 7.3. Specific end use(s) No additional information available SECTION 8: Exposure controls/personal protection 8.1. Control parameters 6.1. Control parameters 6.1. Control parameters 6.1. Control parameters 6.2. Controls/personal protection 1.1. Sping USA. ACGIH Threshold Limit Values (TLV) UsA OSHA OSHA OSHA PEL (TWA) (mg/m ³) 1.1. Sing With ACGIH TWA (mg/m ³) 1.1. Sing With ACGIH TWA (mg/m ³) 1.1. Sping USA. ACGIH Threshold Limit Values (TLV) USA OSHA OSHA OSHA PEL (STEL) (mg/m ³) 1.2. Exposure controls 3.2. Exposure controls 3.4. Control 3.5. Exposure controls 3.6. A PEL (STEL) (mg/m ³) 3.7. Specific end user 3.8. Control 3.9. Component set 3.9. Component set 3.1. Control 3.1. Control 3.1. Control 3.1. Control parameters 3.2. Exposure controls 3.3. Component set 3.4. Control 3.6. APEL (STEL) (mg/m ³) 3.7. Specific end user 3.6. APEL (STEL) (mg/m ³) 3.7. Specific end user 3.8. Control 3.9. Component set 3.1. Control 3.1. Control 3.1. Control 3.1. Control 3.1. Control 3.1. Control 3.1. Control 3.1. Control 	6.3. Methods and materia	al for containment	and cleaning up	
5.4. Reference to other sections No additional information available SECTION 7: Handling and storage 7.1. Precautions for safe handling Precautions for safe handling Precautions for safe handling Precautions for safe handling Precautions for safe storage, including any incompatibilities Technical measures : Store in a well-ventilated place. Keep container tightly dosed. Storage conditions : Store at room temperature away from light and moisture. 7.3. Specific end use(s) Store at noom temperature away from light and moisture. 8.1. Control parameters ECTION 9: Exposure controls/personal protection 8.1. Control parameters EQUERCI (1,1,2,3,3-05) (62502-71-0) Italy - Portugal - USA ACGIH ACGIH TWA (mg/m ³) 10 mg/m ³ USA. ACGIH Threshold Limit Values (TLV) USA OSHA OSHA PEL (TWA) (mg/m ³) 15 mg/m ³ USA. ACGIH Threshold Limit Values (TLV) USA OSHA OSHA PEL (STEL) (mg/m ³) 5 mg/m ³ USA. ACGIH Threshold Limit Values (TLV) USA OSHA OSHA PEL (STEL) (mg/m ³) 5 mg/m ³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants USA OSHA OSHA PEL (STEL) (mg/m ³) 5 mg/m ³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants	For containment	:	binder, silica gel). Small quantities of I	iquid spill: take up in non-combustible absorbent material
No additional information available SECTION 7: Handling and storage 7.1 Precautions for safe handling Precautions for safe handling : Provide adequate ventilation to minimize dust and/or vapour concentrations. Hygiene measures : Wash hands and other exposed areas with mild scap and water before eating, drinking or smoking and when leaving work. 7.2 Conditions for safe storage, including any incompatibilities Technical measures : Store in a well-ventilated place. Keep container tightly closed. Storage conditions : Store at room temperature away from light and moisture. 7.3. Specific end use(s) No additional information available SECTION 8: Exposure controls/personal protection 8.1 Control parameters Image: storage including minimize dust from the storage of the storage	Methods for cleaning up	:	This material and its container must be	e disposed of in a safe way, and as per local legislation.
SECTION 7: Handling and storage 7.1 Precautions for safe handling Precautions for safe handling : Provide adequate ventilation to minimize dust and/or vapour concentrations. Hygiene measures :: Wash hands and other exposed areas with mild scap and water before eating, drinking or smoking and when leaving work. 7.2 Conditions for safe storage, including any incompatibilities Technical measures :: Store in a well-ventilated place. Keep container tightly closed. Storage conditions :: Store in a well-ventilated place. Keep container tightly closed. Storage conditions of use(s) : Store in a well-ventilated place. Keep container tightly closed. No additional information available : Store in a well-ventilated place. Keep controls/personal protection 8.1 Control parameters : Store in a well-ventilated place. Keep controls/personal protection 8.1 Control parameters : Store in a wallable Storugal - USA ACGIH Remark (ACGIH) Upper Respiratory Tract Irritation 11aly - Portugal - USA ACGIH Remark (ACGIH) Upper Respiratory Tract Irritation USA OSHA OSHA PEL (TWA) (mg/m ³) 15 mg/m ³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants USA OSHA OSHA PEL (STEL) (mg/m ³) 5 ng/m ³ USA. Occupational Exposure	6.4. Reference to other set	ections		
7.1. Precautions for safe handling : Provide adequate veriliation to minimize dust and/or vapour concentrations. Hygiene measures : Provide adequate veriliation to minimize dust and/or vapour concentrations. Hygiene measures : Wash hands and other exposed areas with mild scap and water before eating, drinking or smoking and when leaving work. 7.2. Conditions for safe storage, including any incompatibilities : Store in a well-ventilated place. Keep container tightly closed. Storage conditions : Store in to well-ventilated place. Keep container tightly closed. 7.3. Specific end use(s) : Store in a well-ventilated place. Keep container tightly closed. No additional information available : Store in a well-ventilated place. Keep container tightly closed. Storage conditions : Store in to well-ventilated place. Keep container tightly closed. Storage conditions : Store in a well-ventilated place. Keep container tightly closed. Storage conditions : Store in a well-ventilated place. Keep container tightly closed. Storage conditions : Store in a well-ventilated place. Keep container tightly closed. Storage conditions : Store in a well-ventilated place. Keep container tightly closed. Storage conditions : Store in a well-ventilated place. Keep container tightly closed. Storage conditions : Store in a well-ventilated place.	No additional information availab	ble		
Precautions for safe handling tygiene measures : Provide adequate ventilation to minimize dust and/or vapour concentrations. tygiene measures : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. 7.2. Conditions for safe storage, including any incompatibilites Fechnical measures : Store in a well-ventilated place. Keep container tightly closed. Storage conditions : Store at room temperature away from light and moisture. 7.3. Specific end use(s) No additional information available: SECTION 8: Exposure controls/personal protection B.1. Control parameters SECTION 8: Exposure controls/personal protection B.1. Control parameters SECTION 9: ACGIH TWA (mg/m ³) 10 mg/m ³ USA. ACGIH Threshold Limit Values (TLV) Taly - Portugal - USA ACGIH AGGIH TWA (mg/m ³) Table 2-1 Limits for Air Contaminants USA OSHA OSHA PEL (TWA) (mg/m ³) USA OSHA OSHA PEL (STEL) (mg/m ³) USA OSHA OSHA PEL (STEL) (mg/m ³) So a Appendix D - Substances with No Established Remark (OSHA) 8: Exposure controls 8: Exposure controls 9: Exposure con	SECTION 7: Handling ar	nd storage		
Hygiene measures Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. 7.2. Conditions for safe storage, including any incompatibilities Technical measures : Store in a well-ventilated place. Keep container tightly closed. Storage conditions : Store at room temperature away from light and moisture. 7.3. Specific end use(s) No additional information available Store to room temperature away from light and moisture. SECTION 8: Exposure controls/personal protection Store (additional information available) Store and the exponentiation available Control parameters BL1 Control parameters Upper Respiratory Tract Irritation Italy - Portugal - USA ACGIH ACGIH TWA (mg/m ³) 10 mg/m ² USA. ACGIH Threshold Limit Values (TLV) UsA OSHA OSHA PEL (TWA) (mg/m ³) 15 mg/m ³ USA. Occupational Exposure Limits (OSHA) USA OSHA OSHA PEL (STEL) (mg/m ³) 15 mg/m ³ USA. Occupational Exposure Limits (OSHA) USA OSHA OSHA PEL (STEL) (mg/m ³) See Appendix D - Substances with No Established RELs S2. Exposure controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. ersonal protective equipment : Glo	7.1. Precautions for safe	handling		
smoking and when leaving work. in the field of the second sec	Precautions for safe handling	:	Provide adequate ventilation to minim	ize dust and/or vapour concentrations.
Technical measures : Store in a well-ventilated place. Keep container tightly closed. Storage conditions : Store at room temperature away from light and moisture. 7.3. Specific end use(s) No additional information available EECTION 3: Exposure controls/personal protection 8.1. Control parameters GLYCEROL (1,1,2,3,3-05) (65500 (2000) Eection (2000) 11aly - Portugal - USA ACGIH ACGIH TWA (mg/m ³) 10 mg/m ³ USA. ACGIH Threshold Limit Values (TLV) Italy - Portugal - USA ACGIH CGCIH TWA (mg/m ³) 15 mg/m ³ USA. Cocupational Exposure Limits (OSHA) USA OSHA OSHA PEL (TWA) (mg/m ³) 15 mg/m ³ USA. Cocupational Exposure Limits (OSHA) USA OSHA OSHA PEL (TWA) (mg/m ³) 5 mg/m ³ USA. Cocupational Exposure Limits (OSHA) USA OSHA OSHA PEL (STEL) (mg/m ³) 5 mg/m ³ USA. Cocupational Exposure Limits (OSHA) USA OSHA Remark (OSHA) See Appendix D - Substances with No Established RELs 8.2 Exposure controls : Wash hands and other exposed areas with mild scap and water before eating, drinking or smoking and when leaving work. Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus. Waterials for protective clothing : Wear suitable protective cloth	Hygiene measures	:		s with mild soap and water before eating, drinking or
Storage conditions : Store at room temperature away from light and moisture. 7.3. Specific end use(s) No additional information available SECTION 8: Exposure controls/personal protection 8.1. Control parameters GLYCEROL (1,1,2,3,3-D5) (6250271-0) Italy - Portugal - USA ACGIH Remark (ACGIH) Upper Respiratory Tract Irritation Is mg/m² USA. ACGIH TIVA (mg/m²) 10 mg/m² USA. ACGIH TIVA (mg/m²) 10 mg/m² USA. ACGIH TIVA (mg/m²) Uspan Coll (CITIVA) (mg/m²) Upper Respiratory Tract Irritation USA ACGIH USA ACGIH TIVA (mg/m²) 10 mg/m² USA. ACGIH TIVA (mg/m²) Is mg/m² USA. Occupational Exposure Limits (OSHA) See Appendix D - Substances with No Established RELS Responsize controls Store suitable protective clothing. Protective gagles. Self-contained breathing apparatus. Waterials for protective clothing Waterials for protective clothing Hord protection Evep rotection Colspan	7.2. Conditions for safe s	storage, including	any incompatibilities	
7.3 Specific end use(s) No additional information available SECTION 8: Exposure controls/personal protection 8.1 Control parameters GUYCEROL (1,1,2,3,3-D5) (62502-71-0) Italy - Portugal - USA ACGIH ACGIH TWA (mg/m ³) Italy - Portugal - USA ACGIH Remark (ACGIH) USA OSHA OSHA PEL (TWA) (mg/m ³) USA OSHA OSHA PEL (STEL) (mg/m ³) See Appendix D - Substances with No Established RELs 8.2 Exposure controls Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Personal protective equipment : Gloves. Protective clothing. Protective gogles. Self-contained breathing apparatus. Waterials for protective clothing : Wear suitable protective clothing and gloves. +and protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves and eye/face protection. Skin and body protection : Wear suitable protective clothing. glogles or face shield with sa	Technical measures	:	Store in a well-ventilated place. Keep	container tightly closed.
No additional information available SECTION 8: Exposure controls/personal protection 8.1. Control parameters GLYCEROL (1,1,2,3,3-D5) (62502-71-0) Italy - Portugal - USA ACGIH ACGIH TWA (mg/m ³) 10 mg/m ³ USA. ACGIH Threshold Limit Values (TLV) Italy - Portugal - USA ACGIH ACGIH (ACGIH) Upper Respiratory Tract Irritation USA OSHA OSHA OSHA COSH Remark (ACGIH) 15 mg/m ³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants USA OSHA OSHA OSHA ACGIH Remark (OSHA) USA OSHA Remark (OSHA) See Appendix D - Substances with No Established RELs 8.2. Exposure controls Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Personal protective equipment : Wash suitable protective clothing. Protective goggles. Self-contained breathing apparatus. Waterials for protective clothing : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Eye protection : In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.	Storage conditions	:	Store at room temperature away from	light and moisture.
SECTION 8: Exposure controls/personal protection 8.1. Control parameters GLYCEROL (1,1,2,3,3-D5) (62502-71-0) Italy - Portugal - USA ACGIH ACGIH TWA (mg/m ³) 10 mg/m ³ USA. ACGIH Threshold Limit Values (TLV) Italy - Portugal - USA ACGIH Remark (ACGIH) USA OSHA OSHA PEL (TWA) (mg/m ³) USA OSHA OSHA PEL (STEL) (mg/m ³) S mg/m ³ USA. Occupational Exposure Limits (OSHA) - Table 2-1 Limits for Air Contaminants USA OSHA OSHA PEL (STEL) (mg/m ³) USA OSHA Remark (OSHA) See Appendix D - Substances with No Established RELs 8.2. Exposure controls * Wash hands and other exposed areas with mild scap and water before eating, drinking or smoking and when leaving work. Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus. Waterials for protective clothing : Wear suitable protective clothing and gloves. Hand protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing, gloves and eye/face protection. Stin and body protection : Near suitable protective clothing, gloves and eye/face	7.3. Specific end use(s)			
B.1. Control parameters GLYCEROL (1,1,2,3,3-D5) (62502-71-0) Italy - Portugal - USA ACGIH ACGIH TWA (mg/m ³) Italy - Portugal - USA ACGIH Remark (ACGIH) USA OSHA OSHA PEL (TWA) (mg/m ³) USA OSHA OSHA PEL (TWA) (mg/m ³) USA OSHA OSHA PEL (STEL) (mg/m ³) USA OSHA OSHA PEL (STEL) (mg/m ³) USA OSHA Remark (OSHA) USA OSHA Remark (OSHA) USA OSHA Remark (OSHA) USA OSHA OSHA PEL (STEL) (mg/m ³) See Appendix D - Substances with No Established RELs B.2. Exposure controls Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus. Waterials for protective clothing : Wear suitable protective clothing and gloves. Hand protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection. Skin and body protection		ole		
B.1. Control parameters GLYCEROL (1,1,2,3,3-D5) (62502-71-0) Italy - Portugal - USA ACGIH ACGIH TWA (mg/m ³) Italy - Portugal - USA ACGIH Remark (ACGIH) USA OSHA OSHA PEL (TWA) (mg/m ³) USA OSHA OSHA PEL (TWA) (mg/m ³) USA OSHA OSHA PEL (STEL) (mg/m ³) USA OSHA OSHA PEL (STEL) (mg/m ³) USA OSHA Remark (OSHA) USA OSHA Remark (OSHA) USA OSHA Remark (OSHA) USA OSHA OSHA PEL (STEL) (mg/m ³) See Appendix D - Substances with No Established RELs B.2. Exposure controls Appropriate engineering controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus. Waterials for protective clothing : Wear suitable protective clothing and gloves. Hand protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection. Skin and body protection	SECTION 8: Exposure o	ontrols/person	al protection	
Italy - Portugal - USA ACGIH ACGIH TWA (mg/m ³) 10 mg/m ³ USA. ACGIH Threshold Limit Values (TLV) Italy - Portugal - USA ACGIH Remark (ACGIH) Upper Respiratory Tract Irritation USA OSHA OSHA PEL (TWA) (mg/m ³) 15 mg/m ³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants USA OSHA OSHA PEL (STEL) (mg/m ³) 5 mg/m ³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants USA OSHA OSHA PEL (STEL) (mg/m ³) 5 mg/m ³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants USA OSHA Remark (OSHA) See Appendix D - Substances with No Established RELs 8.2. Exposure controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus. Waterials for protective clothing : Wear suitable protective clothing and gloves. Hand protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Skin and body protection : Wear suitable protective clothing and gloves. Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection. Skin				
Italy - Portugal - USA ACGIH Remark (ACGIH) Upper Respiratory Tract Irritation USA OSHA OSHA PEL (TWA) (mg/m³) 15 mg/m³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants USA OSHA OSHA PEL (STEL) (mg/m³) 5 mg/m³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants USA OSHA OSHA PEL (STEL) (mg/m³) 5 mg/m³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants USA OSHA Remark (OSHA) See Appendix D - Substances with No Established RELs 8.2. Exposure controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus. Waterials for protective clothing : Wear suitable protective clothing and gloves. Hand protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection. Skin and body protection : In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.	GLYCEROL (1,1,2,3,3-D5) (62	2502-71-0)		
USA OSHA OSHA PEL (TWA) (mg/m³) 15 mg/m³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants USA OSHA OSHA PEL (STEL) (mg/m³) 5 mg/m³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants USA OSHA Remark (OSHA) See Appendix D - Substances with No Established RELs 8.2. Exposure controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Personal protective equipment : Gloves. Protective clothing. Protective gggles. Self-contained breathing apparatus. Waterials for protective clothing : Wear suitable protective clothing and gloves. Hand protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing. gloves and eye/face protection. Skin and body protection : In case of inadequate ve	Italy - Portugal - USA ACGIH	ACGIH TWA (mg/	m³)	10 mg/m ³ USA. ACGIH Threshold Limit Values (TLV)
USA OSHA OSHA PEL (STEL) (mg/m³) 5 mg/m³ USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants USA OSHA Remark (OSHA) See Appendix D - Substances with No Established RELs 8.2. Exposure controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus. Waterials for protective clothing : Wear suitable protective clothing and gloves. Hand protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing, gloves and eye/face protection. Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection. Skin and body protection : In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.	Italy - Portugal - USA ACGIH	Remark (ACGIH)		Upper Respiratory Tract Irritation
Table Z-1 Limits for Air Contaminants USA OSHA Remark (OSHA) See Appendix D - Substances with No Established RELs 8.2. Exposure controls : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Personal protective equipment : Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus. Waterials for protective clothing : Wear suitable protective clothing and gloves. Hand protection : Wear suitable protective clothing and gloves. Eye protection : Wear suitable protective clothing, gloves and eye/face protection. Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection. Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection. In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.	USA OSHA	OSHA PEL (TWA)) (mg/m³)	
RELs RELs RELs Reconstruction Reconstructin <tr< td=""><td>USA OSHA</td><td>OSHA PEL (STEL</td><td>.) (mg/m³)</td><td></td></tr<>	USA OSHA	OSHA PEL (STEL	.) (mg/m³)	
 Appropriate engineering controls Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus. Waterials for protective clothing Wear suitable protective clothing and gloves. In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator. 	USA OSHA	Remark (OSHA)		
 Appropriate engineering controls Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus. Waterials for protective clothing Wear suitable protective clothing and gloves. In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator. 	8.2. Exposure controls			
Materials for protective clothing: Wear suitable protective clothing and gloves.Hand protection: Wear suitable protective clothing and gloves.Eye protection: Wear suitable protective clothing and gloves.Skin and body protection: Wear suitable protective clothing, gloves and eye/face protection.Respiratory protection: In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.	Appropriate engineering controls	3 :		s with mild soap and water before eating, drinking or
Materials for protective clothing: Wear suitable protective clothing and gloves.Hand protection: Wear suitable protective clothing and gloves.Eye protection: Wear suitable protective clothing and gloves.Skin and body protection: Wear suitable protective clothing, gloves and eye/face protection.Respiratory protection: In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.	Personal protective equipment	:	Gloves. Protective clothing. Protective	goggles. Self-contained breathing apparatus.
Hand protection: Wear suitable protective clothing and gloves.Eye protection: Wear eye protection. Chemical goggles or face shield with safety glasses.Skin and body protection: Wear suitable protective clothing, gloves and eye/face protection.Respiratory protection: In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.				
Eye protection: Wear eye protection. Chemical goggles or face shield with safety glasses.Skin and body protection: Wear suitable protective clothing, gloves and eye/face protection.Respiratory protection: In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.	Materials for protective clothing	:	Wear suitable protective clothing and	gloves.
Eye protection: Wear eye protection. Chemical goggles or face shield with safety glasses.Skin and body protection: Wear suitable protective clothing, gloves and eye/face protection.Respiratory protection: In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.	Hand protection	:	Wear suitable protective clothing and	gloves.
Skin and body protection: Wear suitable protective clothing, gloves and eye/face protection.Respiratory protection: In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.	Eye protection			-
Respiratory protection : In case of inadequate ventilation wear respiratory protection. Approved supplied air respirator.	Skin and body protection			
SECTION 9: Physical and chemical properties	Respiratory protection	:	In case of inadequate ventilation wear	respiratory protection. Approved supplied air respirator.
	SECTION 9: Physical an	d chemical pro	operties	

9.1. Information on basic physical ar	Information on basic physical and chemical properties	
Physical state	: Liquid	
Appearance	: Liquid.	
Molecular mass	: 97.13 g/mol (Labeled)	
Colour	: Colorless to faint yellow.	
Odour	: odourless.	
Odour threshold	: No data available	
pH	: 5.5 - 8	
Relative evaporation rate (butylacetate=1)	: No data available	
Melting point	: 20 °C (68 °F)	
Freezing point	: No data available	
Boiling point	: 182 °C (360 °F) at 27 hPa (20 mmHg)	

GLYCEROL (1,1,2,3,3-D5)

DLM-1229-CTM

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Flash point	: 160 °C (320 °F) - closed cup
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: No data available
Vapour pressure	: 0.0033 hPa (0.0025 mmHg) at 50 °C (122 °F)
Relative vapour density at 20 °C	: 3.18 - (Air = 1.0)
Relative density	: No data available
Density	: 1.25 g/mL
Solubility	: Water: Soluble
Log Pow	: No data available
Log Kow	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: 2.7 - 19 vol % (V) at 1013 hPa (760 mmHg)
9.2. Other information	
Additional information	: Surface tension 63.4 mN/m at 20 °C (68 °F)

Additional information

-	Surrace	tension	63.4	miv/m	at 20	-C (68	

SECT	SECTION 10: Stability and reactivity			
10.1.	Reactivity			
Hygros	copic.			
10.2.	Chemical stability			
Stable i	if stored under recommended conditions.			
10.3.	Possibility of hazardous reactions			
No dan	gerous reactions known under normal conditions of use.			
10.4.	Conditions to avoid			
No add	itional information available			
10.5.	Incompatible materials			
Strong	oxidizing agents. Strong bases.			
10.6.	Hazardous decomposition products			

Carbon oxides (CO, CO2).

SECTION 11: Toxicological information		
11.1. Information on toxicological effects		
Acute toxicity	: Not classified	
GLYCEROL (1,1,2,3,3-D5) (62502-71-0)		
LD50 oral rat	12600 mg/kg	
LD50 dermal rabbit	> 10000 mg/kg	
Skin corrosion/irritation	Not classified	
	Skin rabbit mild skin irritation 24 Hours	
	pH: 5.5 - 8	
Serious eye damage/irritation	Not classified	
	Eyes rabbit mild eye irritation 24 Hours	
	pH: 5.5 - 8	
Respiratory or skin sensitisation	Not classified	
Germ cell mutagenicity	Not classified	

GLYCEROL (1,1,2,3,3-D5) DLM-1229-CTM Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

0, 2012 / Rules and Regulations	
Carcinogenicity	: No component of this product present at levels greater than or equal to 0.1 % is identified as a known or anticipated carcinogen by NTP. No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen or potential carcinogen by ACGIH. No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible, or confirmed human carcinogen by IARC. No component of this product present at levels greater than or equal to 0.1% is identifiable as a carcinogen by IARC. No component of this product present at levels greater than or equal to 0.1% is identifiable as probable, possible, or confirmed human carcinogen by IARC. No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential adverse human health effects and symptoms	: Headache. Nausea. Vomiting. Kidney - irregularities - Based on Human Evidence. This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.
Symptoms/injuries after inhalation	: May be harmful if inhaled. May cause respiratory irritation.
Symptoms/injuries after skin contact	: May be harmful in contact with skin. May cause moderate irritation.
Symptoms/injuries after eye contact	: May cause eye irritation.
Symptoms/injuries after ingestion	: May be harmful if swallowed.
SECTION 12: Ecological information	bn
12.1. Toxicity	
Ecology - general	: The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
12.2. Persistence and degradability	
No additional information available	
12.3. Bioaccumulative potential	
No additional information available	
12.4. Mobility in soil	
No additional information available	

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available Other adverse effects 12.6.

No additional information available

SECTION 13: Disposal consideration	IS			
13.1. Waste treatment methods				
Regional legislation (waste)	: Waste materials should be disposed of under conditions which meet Federal, State, and L environmental control regulations.	.ocal		
Product/Packaging disposal recommendations:	: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licen professional waste disposal service to dispose of this material.	nsed		
Ecology - waste materials	: Dispose of as unused product.			
SECTION 14: Transport information				
In accordance with ADR / RID / IMDG / IATA / ADN				
14.1. UN number				
Not applicable				
14.2. UN proper shipping name				
Not applicable				
14.3. Additional information				
Other information	: No supplementary information available.			
Special transport precautions	: Not classified as dangerous in the meaning of transport regulations.			
Overland transport				
No additional information available				
16/11/2017	EN (English)	5/7		

GLYCEROL (1,1,2,3,3-D5) DLM-1229-CTM

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Transport by sea

No additional information available

Air transport

No additional information available

14.4.	Environmental hazards	
Other in	formation	: No supplementary information available.
14.5.	Special precautions for user	
Special	transport precautions	: Not classified as dangerous in the meaning of transport regulations.

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

Not applicable

SECTION 15: Regulatory information	
15.1. US Federal regulations	
GLYCEROL (1,1,2,3,3-D5) (62502-71-0)	
SARA Section 302 Threshold Planning Quantity (TPQ)	Not subject to reporting requirements of the United States SARA Section 302.
SARA Section 311/312 Hazard Classes	Delayed (chronic) health hazard
SARA Section 313 - Emission Reporting	Not subject to reporting requirements of the United States SARA Section 313.

15.2. International regulations

CANADA

GLYCEROL (1,1,2,3,3-D5) (62502-71-0)	
Listed on the Canadian DSL (Domestic Substances List)	

15.2.1. National regulations

No additional information available

15.3. US State regulations		
GLYCEROL (1,1,2,3,3-D5)(62502-71-0)		
U.S California - Proposition 65 - Carcinogens List	No	
U.S California - Proposition 65 - Developmental Toxicity	No	
U.S California - Proposition 65 - Reproductive Toxicity - Female	No	
U.S California - Proposition 65 - Reproductive Toxicity - Male	No	
State or local regulations	U.S Massachusetts - Right To Know List U.S New Jersey - Right to Know Hazardous Substance List U.S Pennsylvania - RTK (Right to Know) List	

SECTION 16: Other information Other information : This product is not radioactive. The data given for this product are those of the corresponding unlabeled compound, unless specifically indicated otherwise. Health and safety data for labeled compounds are generally not available, but are assumed to be similar or identical to the corresponding unlabeled compound. NFPA health hazard : 0 - Materials that, under emergency conditions, would offer no hazard beyond that of ordinary combustible materials. NFPA fire hazard : 1 - Materials that must be preheated before ignition can occur. 0 : 0 - Material that in themselves are normally stable, even NFPA reactivity under fire conditions.

GLYCEROL (1,1,2,3,3-D5) DLM-1229-CTM

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2015/830 and according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

HMIS III Rating Health : 0 Minimal Hazard - No significant risk to health Flammability : 1 Slight Hazard Physical : 0 Minimal Hazard

CIL Multi-Solvent Mixture SDS

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product