

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: 31/05/2011 Revision date: 07/06/2019 Supersedes: 03/06/2015 Version: 3.1 DLM-7364

SECTION 1: Identification	of the substance/mixture and of the company/undertaking
1.1. Product identifier	
Product form Substance name EC-No. CAS-No. Product code Formula Synonyms	 Substance SODIUM CYANOBORODEUTERIDE (D3, 98%) 97%+ CHEMICAL PURITY 247-318-8 (Unlabeled) 25895-62-9 DLM-7364 CBD3NNa Sodium Cyanotrideuteroborate; Sodium borocyanodeuteride
1.2. Relevant identified use	s of the substance or mixture and uses advised against
 1.2.1. Relevant identified use No additional information available 1.2.2. Uses advised against No additional information available 	s of the safety data sheet
50 Frontage Road Andover, MA 01810 USA USA: 1-800-322-1174 Int: 1-978 <u>cilsales@isotope.com</u> www.isoto	
Emergency telephone	number
Emergency numbers:	
Chemtrec: 1-800-424-9300 (24 ho International: 1-703-741-5970 (24	
SECTION 2: Hazards ident	tification
2.1. Classification of the su	bstance or mixture
Classification according to Regu	Ilation (EC) No. 1272/2008 [CLP]
Flam. Sol. 1	H228
Acute Tox. 2 (Oral)	H300
Acute Tox. 1 (Dermal)	H310
Acute Tox. 2 (Inhalation:dust,mist)	
Skin Corr. 1B	H314

Full text of hazard classes and H-statements : see section 16

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]

H318

H373

F; R11 T+; R26/27/28 C; R34 R32 R33 Full text of R-phrases: see section 16

GHS-US classification

 Flam. Sol. 1
 H228

 Acute Tox. 2 (Oral)
 H300

 Acute Tox. 2 (Dermal)
 H310

 Acute Tox. 2 (Inhalation)
 H330

 Skin Corr. 1B
 H314

 STOT RE 2
 H373

Eye Dam. 1

STOT RE 2

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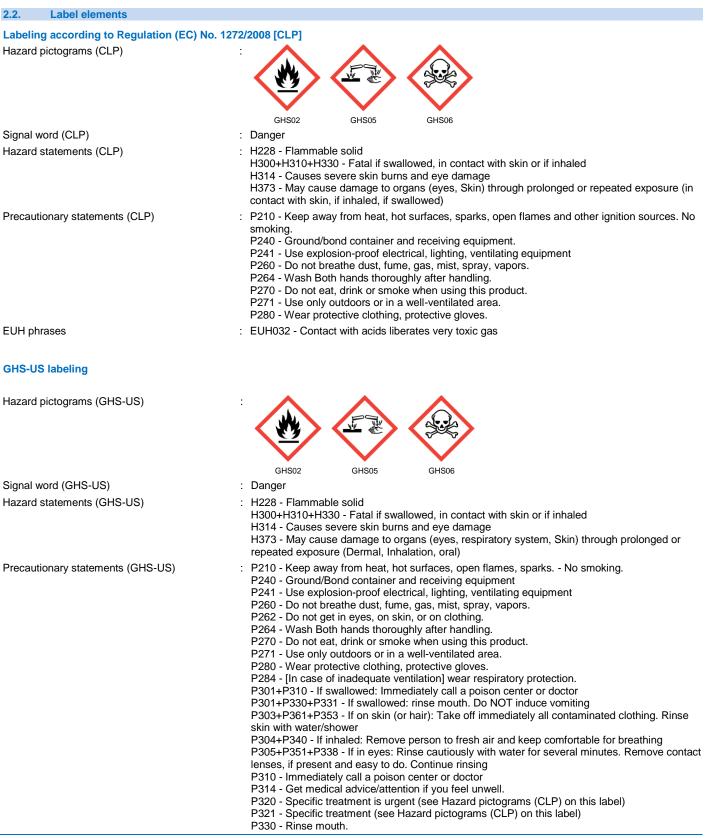
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Full text of H statements : see section 16

Adverse physicochemical, human health and environmental effects

No additional information available



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P361 - Take off immediately all contaminated clothing.

P363 - Wash contaminated clothing before reuse.

P370+P378 - In case of fire: Use Alcohol resistant foam, Carbon dioxide, Water spray to extinguish.

P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

P405 - Store locked up.

P501 - Dispose of contents/container to Comply with applicable regulations

2.3. Other hazards

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances			
Name	Product identifier	%	Classification according to Directive 67/548/EEC
SODIUM CYANOBORODEUTERIDE (D3, 98%) 97%+ CHEMICAL PURITY	(CAS-No.) 25895-62-9 (EC-No.) 247-318-8 (Unlabeled)	100	F; R11 T+; R26/27/28 C; R34 R32 R33
Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
SODIUM CYANOBORODEUTERIDE (D3, 98%) 97%+ CHEMICAL PURITY	(CAS-No.) 25895-62-9 (EC-No.) 247-318-8 (Unlabeled)	100	Flam. Sol. 1, H228 Acute Tox. 2 (Oral), H300 Acute Tox. 1 (Dermal), H310 Acute Tox. 2 (Inhalation:dust,mist), H330 Skin Corr. 1B, H314 Eye Dam. 1, H318 STOT RE 2, H373

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

Name	Product identifier	%	GHS-US classification
SODIUM CYANOBORODEUTERIDE (D3, 98%) 97%+ CHEMICAL PURITY (Main constituent)	(CAS-No.) 25895-62-9	100	Flam. Sol. 1, H228 Acute Tox. 2 (Oral), H300 Acute Tox. 2 (Dermal), H310 Acute Tox. 2 (Inhalation), H330 Skin Corr. 1B, H314 STOT RE 2, H373

Full text of H-phrases: see section 16

3.2. Mixtures	
Not applicable	
SECTION 4: First aid measures	
4.1. Description of first aid measures	
First-aid measures general	: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
First-aid measures after inhalation	: If breathed in, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
First-aid measures after skin contact	: Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
First-aid measures after eye contact	: Continue rinsing eyes during transport to hospital. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
First-aid measures after ingestion	: Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
4.2. Most important symptoms and effe	cts, both acute and delayed
Symptoms/effects after inhalation	 May be fatal if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Symptoms/effects after skin contact	: May be fatal if absorbed through the skin. Causes skin burns.
Symptoms/effects after eye contact	: Causes eye burns.
Symptoms/effects after ingestion	: May be fatal if swallowed.

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4.3. Indication of any immediate medical attention and special treatment needed No additional information available		
SECTION 5: Firefighting		
5.1. Extinguishing media		
Suitable extinguishing media	: Use water spray, alcohol-resistant foam, dry chemical, or carbon dioxide.	
	ing from the substance or mixture	
Reactivity	: Not available.	
5.3. Advice for firefighter		
Firefighting instructions	: Use water spray to cool unopened containers.	
Protection during firefighting	: Do not enter fire area without proper protective equipment, including respiratory protection.	
SECTION 6: Accidental	release measures	
6.1. Personal precaution	s, protective equipment and emergency procedures	
6.1.1. For non-emergency	•	
Emergency procedures	: Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Avoid breathing dust.	
6.1.2. For emergency resp No additional information availa		
6.2. Environmental preca		
Prevent further leakage or spilla	ge if safe to do so. Do not let product enter drains.	
6.3. Methods and materia	al for containment and cleaning up	
For containment	: Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet- brushing and place in container for disposal according to local regulations. Keep in suitable, closed containers for disposal.	
6.4. Reference to other s	ections	
No additional information available	ble	
SECTION 7: Handling an	nd storage	
7.1. Precautions for safe	handling	
Additional hazards when proces	 sed Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition - No smoking. Take measures to prevent the build up of electrostatic charge. 	
Hygiene measures	: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.	
	storage, including any incompatibilities	
Storage conditions	: Store at room temperature, desiccated and away from light.	
7.3. Specific end use(s)		
No additional information availa		
SECTION 8: Exposure c	ontrols/personal protection	
8.1. Control parameters		
	ERIDE (D3, 98%) 97%+ CHEMICAL PURITY (25895-62-9)	
USA OSHA	OSHA PEL (TWA) (mg/m ³) 5 mg/m ³ Skin designation; C 4.7 ppm NIOSH Recommended Exposure Limits; 10 minute ceiling	
8.2. Exposure controls		
Personal protective equipment	: Gloves. Protective clothing. Protective goggles. Self-contained breathing apparatus.	
Eye protection	: Wear safety glasses with side shields (or goggles) and a face shield.	
Skin and body protection	: Complete suit protecting against chemicals, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.	

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Respiratory protection

: When appropriate, use NIOSH/CEN approved respirator.

Respiratory protection	· When appropriate, use MOSH/OLIN approved respirator.
SECTION 9: Physical and chemical p	properties
9.1. Information on basic physical and c	hemical properties
Physical state	: Solid
Appearance	: Fine crystals and fragments.
Molecular mass	: 65.86 g/mol (Labeled)
Color	: White to brown.
Odor	: No data available.
Odor threshold	: No data available
рН	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Melting point	: > 242 °C (> 468 °F) - lit.
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: The substance or mixture is a flammable solid with the subcategory 1
Vapor pressure	: No data available
Relative vapor density at 20 °C	: No data available
Relative density	: No data available
Specific gravity / density	: 1.2 g/cm ³
Solubility	: Water: 100 %
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
Oxidizing properties	: No data available
Explosion limits	: No data available
9.2. Other information	
No additional information available	
SECTION 10: Stability and reactivity	
10.1. Reactivity	
Not available.	
10.2. Chemical stability	
Stable if stored under recommended conditions.	
10.3. Possibility of hazardous reactions	
No additional information available	
10.4. Conditions to avoid	
Heat, flames and sparks. Extremes of temperature	re and direct sunlight
10.5. Incompatible materials	
No additional information available	
10.6. Hazardous decomposition products	
Formed under fire conditions: Carbon oxides, nitrogen oxides (NOx). Borane/boron oxides, Sodium oxides.	
SECTION 11: Toxicological information	
11.1. Information on toxicological effects	
Acute toxicity	: Oral: Fatal if swallowed. Dermal: Fatal in contact with skin. Inhalation:dust,mist: Fatal if inhaled.
SODIUM CYANOBORODEUTERIDE (D3, 98%) 97%+ CHEMICAL PURITY (25895-62-9)	
ATE CLP (oral)	5.000 mg/kg body weight
ATE CLP (dermal)	5.000 mg/kg body weight

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SODIUM CYANOBORODEUTERIDE (D3, 98%) 97%+ CHEMICAL PURITY (25895-62-9)		
ATE CLP (dust, mist)	0.050 mg/l/4h	
Skin corrosion/irritation	: Causes severe skin burns and eye damage.	
	No data available	
Serious eye damage/irritation	: Causes serious eye damage.	
	No data available	
Respiratory or skin sensitization	: Not available	
	No data available	
Germ cell mutagenicity	: Not available	
Carcinogenicity	: Not classified	
Reproductive toxicity	: Not available	
Specific target organ toxicity – single exposure	: Not classified	
	No data available	
Specific target organ toxicity – repeated exposure	: May cause damage to organs (eyes, Skin) through prolonged or repeated exposure (in contact with skin, if inhaled, if swallowed).	
	No data available	
Aspiration hazard	: Not classified	
Potential Adverse human health effects and symptoms	: Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract, eyes, and skin. Spasm, inflammation and edema of the larynx, inflammation and edema of the bronchi, pneumonitis, pulmonary edema, burning sensation, cough, wheezing, laryngitis, shortness of breath, headache, nausea, vomiting. The chemical, physical, and toxicological properties have not been thoroughly investigated.	
Symptoms/effects after inhalation	: May be fatal if inhaled. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.	
Symptoms/effects after skin contact	: May be fatal if absorbed through the skin. Causes skin burns.	
Symptoms/effects after eye contact	: Causes eye burns.	
Symptoms/effects after ingestion	: May be fatal if swallowed.	

SECTION 12: Ecological information

12.1. Toxicity

No additional information available

12.2. Persistence and degradability			
SODIUM CYANOBORODEUTERIDE (D3, 98%) 97%+ CHEMICAL PURITY (25895-62-9)			
Persistence and degradability	Not available.		
12.3. Bioaccumulative potential			
SODIUM CYANOBORODEUTERIDE (D3, 98%)	97%+ CHEMICAL PURITY (25895-62-9)		
Bioaccumulative potential	Not available.		
12.4. Mobility in soil			
SODIUM CYANOBORODEUTERIDE (D3, 98%)	SODIUM CYANOBORODEUTERIDE (D3, 98%) 97%+ CHEMICAL PURITY (25895-62-9)		
Ecology - soil	Not available.		
12.5. Results of PBT and vPvB assessment			
No additional information available			
12.6. Other adverse effects			
Other adverse effects	Not available.		
SECTION 13: Disposal considerations			
13.1. Waste treatment methods			
Regional legislation (waste)	: Waste materials should be disposed of under conditions which meet Federal, State, and local environmental control regulations.		

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SECTION 14: Transport information	
In accordance with ADR / RID / IMDG / IATA / /	
14.1. UN number	
UN-No.(DOT)	: UN3179
DOT NA no.	3179
14.2. UN proper shipping name	
Proper Shipping Name (DOT)	: Flammable solid, toxic, inorganic, n.o.s.
Class (DOT)	: 4.1 - Class 4.1 - Flammable Solid 49 CFR 173.124
Hazard labels (DOT)	: 4.1 - Flammable solid 6.1 - Poison
	POISON 6
DOT Symbols	: G - Identifies PSN requiring a technical name
Packing group (DOT)	: II - Medium Danger
DOT Special Provisions (49 CFR 172.102)	 A1 - Single packaging are not permitted on passenger aircraft. IB6 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2). Additional Requirement: Composite IBCs 11HZ2 and 21HZ2 may not be used when the hazardous materials being transported may become liquid during transport. IP2 - When IBCs other than metal or rigid plastics IBCs are used, they must be offered for transportation in a closed freight container or a closed transport vehicle. T3 - 2.65 178.274(d)(2) Normal
DOT Packaging Exceptions (49 CFR 173.xxx)	: 151
DOT Packaging Non Bulk (49 CFR 173.xxx)	: 212
DOT Packaging Bulk (49 CFR 173.xxx)	: 242
Marine pollutant	: No
14.3. Additional information Other information	: No supplementary information available.
Overland transport	
Packing group (ADR)	 II 4.1 - Flammable solids, self-reactive substances and solid desensitized explosives
Class (ADR) Hazard identification number (Kemler No.)	: 4.1 - Flammable solids, self-reactive substances and solid desensitized explosives : 46
Classification code (ADR)	: 46 : FT2
Classification court (ADR)	. 114
	· 11- Flammable solid
Hazard labels (ADR)	: 4.1 - Flammable solid 6.1 - Toxic substances
Hazard labels (ADR)	6.1 - Toxic substances
Hazard labels (ADR) Tunnel restriction code (ADR)	6.1 - Toxic substances . E

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Excepted quantities (ADR)	: E2
Transport by sea	
DOT Vessel Stowage Location	: B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this section is exceeded.
DOT Vessel Stowage Other	: 40 - Stow "clear of living quarters"
Air transport	
DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)	: 15 kg
DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: 50 kg
14.4. Environmental hazards	
Other information	: No supplementary information available.
14.5. Special precautions for user	
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	
SODIUM CYANOBORODEUTERIDE (D3, 98%)	97%+ CHEMICAL PURITY (25895-62-9)
SARA Section 311/312 Hazard Classes	Fire hazard Immediate (acute) health hazard

15.2. International regulations

CANADA SODIUM CYANOBORODEUTERIDE (D3, 98%) 97%+ CHEMICAL PURITY (25895-62-9) Listed on the Canadian DSL (Domestic Substances List)

15.2.1. National regulations

No additional information available

15.3. US State regulations

SODIUM CYANOBORODEUTERIDE (D3, 98%) 97%+ CHEMICAL PURITY(25895-62-9)		
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 Pennsylvania - RTK (Right to Know) List U.S New Jersey - Right to Know Hazardous Substance List This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.	

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.
07/06/2010	EN (English LIS)

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Full text of R-, H- and EUH-phrases:

di text of R-, H- and EOH-philases.			
	Acute Tox. 1 (Dermal)	Acute toxicity (dermal) Category 1	
	Acute Tox. 2 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 2	
	Acute Tox. 2 (Oral)	Acute toxicity (oral) Category 2	
	Eye Dam. 1	Serious eye damage/eye irritation Category 1	
	Flam. Sol. 1	Flammable solids Category 1	
	Skin Corr. 1B	Skin corrosion/irritation Category 1B	
	STOT RE 2	Specific target organ toxicity (repeated exposure) Category 2	
	H228	Flammable solid	
	H300	Fatal if swallowed	
	H310	Fatal in contact with skin	
	H314	Causes severe skin burns and eye damage	
	H318	Causes serious eye damage	
	H330	Fatal if inhaled	
	H373	May cause damage to organs through prolonged or repeated exposure	
	EUH032	Contact with acids liberates very toxic gas	
	R11	Highly flammable	
	R26/27/28	Very toxic by inhalation, in contact with skin and if swallowed	
	R32	Contact with acids liberates very toxic gas	
	R33	Danger of cumulative effects	
	R34	Causes burns	
	С	Corrosive	
	F	Highly flammable	
	T+	Very toxic	

NFPA health hazard	: 4 - Materials that, under emergency conditions, can be lethal.	
NFPA fire hazard	 3 - Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions. 	
NFPA reactivity	: 3 - Materials that in themselves are capable of detonation or explosive decomposition or explosive reaction but that require a strong initiating source or must be heated under confinement before initiation.	
Hazard Rating		
Health	: 3 Serious Hazard - Major injury likely unless prompt action is taken and medical treatment is given	
Flammability	: 3 Serious Hazard	
Physical	: 3 Serious Hazard	

CIL Substance 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