

Safety Data Sheet

According to Annex II to REACH - Regulation 2020/878 and to Annex II to UK REACH

SECTION 1. Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name **BRODIM LIGHT**
Registration n° **IT/2018/00446/AUT**
UFI : **YE20-30X7-400H-6YQ6**

1.2. Relevant identified uses of the substance or mixture and uses advised against

Intended use **Ready-to-use rodenticide bait in paste. For non-professional and professional use (including trained professionals).**

Identified Uses	Industrial	Professional	Consumer
Rodenticide	-	✓	✓

Uses Advised Against

All uses other than those recommended

1.3. Details of the supplier of the safety data sheet

Name **COLKIM S.r.l.**
Full address **Via Piemonte, 50**
District and Country **40064 OZZANO EMILIA (BO)**
Italia
Tel. 051 / 799445
Fax 051 / 797555

e-mail address of the competent person

responsible for the Safety Data Sheet

Supplier:

info@colkim.it
COLKIM S.r.l. - Via Piemonte, 50 - 40064 OZZANO E. (BO)

1.4. Emergency telephone numberFor urgent inquiries refer to **118**

Contact a poison control center:

Nane	City	Address	Zip code	Phone
CAV "Osp. Pediatrico Bambino Gesù"	Roma	P.zza Sant'Onofrio, 4	00165	06 68593726
Az. Osp. Univ. Foggia	Foggia	V.le Luigi pinto, 1	71122	0881 732326
Az. Osp. "A. Cardarelli"	Napoli	Via A. Cardarelli, 9	80131	081 7472870
CAV Policlinico "Umbero I"	Roma	V.le del policlinico, 155	00161	06 49978000
CAV Policlinico "A. Gemelli"	Roma	Largo Agostino Gemelli, 8	00168	06 3054343
Az. Osp. "Careggi" U.O. Tossicologia Medica	Firenze	Largo Brambilla, 3	50134	055 7947819
CAV Centro Nazionale di Informazione Tossicologica	Pavia	Via Salvatore Maugeri, 10	27100	0382 24444
Osp. Niguarda Ca' Granda	Milano	P.zza Ospedale Maggiore,3	20162	02 66101029
Azienda Ospedaliera Papa Giovanni XXII	Bergamo	P.zza OMS, 1	24127	800883300
CAV centro antiveleni Verona	Verona	Piazzale Aristide Stefani,1	37126	800011858

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Specific target organ toxicity - repeated exposure, category 2 H373

May cause damage to organs through prolonged or repeated exposure.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words:

Warning

Hazard statements:

H373

May cause damage to organs (blood) through prolonged or repeated exposure.

Precautionary statements:

P102

Keep out of reach of children.

P301+P310

IF SWALLOWED: immediately call a POISON CENTER or a doctor.

P308+P313

IF exposed or concerned: Get medical advice / attention.

P501

Dispose of contents / container in accordance with national regulation.

Contains:

BRODIFACOUM

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage $\geq$ than 0,1%.

The product does not contain substances with endocrine disrupting properties in concentration $\geq$ 0.1%.

SECTION 3. Composition/information on ingredients

3.2. Mixtures

Contains:

Identification

x = Conc. %

Classification (EC) 1272/2008 (CLP)

CALCIUM HYDROXIDE

INDEX -	$0,35 \leq x < 0,4$	Eye Dam. 1 H318, Skin Irrit. 2 H315, STOT SE 3 H335
EC 215-137-3		
CAS 1305-62-0		
REACH Reg. 01-2119475151-45		
2-BROMO-2-NITROPROPAN-1,3-DIOL		
INDEX 603-085-00-8	$0,1 \leq x < 0,15$	Acute Tox. 3 H301, Acute Tox. 3 H331, Acute Tox. 4 H312, Eye Dam. 1 H318, Skin Irrit. 2 H315, STOT SE 3 H335, Aquatic Acute 1 H400 M=1, Aquatic Chronic 2 H411
EC 200-143-0		LD50 Oral: 211 mg/kg, LD50 Dermal: 1600 mg/kg, LC50 Inhalation mists/powders: 0,588 mg/kg
CAS 52-51-7		
ETHYL ACETATE		
INDEX 607-022-00-5	$0 \leq x < 0,05$	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
EC 205-500-4		
CAS 141-78-6		
BRODIFACOUM		
INDEX -	$x = 0,0025$	Repr. 1A H360D, Acute Tox. 1 H300, Acute Tox. 1 H310, Acute Tox. 1 H330, STOT RE 1 H372, Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=10
EC 259-980-5		Repr. 1A H360D: $\geq 0,003\%$, STOT RE 1 H372: $\geq 0,02\%$, STOT RE 2 H373: $\geq 0,002\%$
CAS 56073-10-0		LD50 Oral: $>0,4$ mg/kg, LD50 Dermal: $>3,2$ mg/kg, STA Inhalation vapours: 0,05 mg/l
REACH Reg. 607-172-00-1		
DENATONIUM BENZOATE		
CAS. 3734-33-6	0,001	Skin Irrit.2 H315, Eye Dam.1 H318, Aquatic Chronic.3 H412, Acute Tox.4 H302, Acute Tox.4 H332
CE 223-095-2		
INDEX. -		
Nr. Reg.		

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention immediately. Wash contaminated clothing before using it again.

INHALATION: Remove to open air. If the subject stops breathing, administer artificial respiration. Get medical advice/attention immediately.

INGESTION: Get medical advice/attention immediately. Do not induce vomiting. Do not administer anything not explicitly authorised by a doctor.

4.2. Most important symptoms and effects, both acute and delayed

Ingestion of excessive quantities may cause nausea, vomiting, loss of appetite, extreme thirst, lethargy, diarrhea, bleeding

4.3. Indication of any immediate medical attention and special treatment needed

If ingested, administer vitamin K1 orally or intramuscularly as indicated in the case of an overdose of bishydroxycoumarin. Repeat as needed based on monitoring of prothrombin times.

SECTION 5. Firefighting measures

5.1. Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

5.2. Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

5.3. Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

6.2. Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3. Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4. Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

7.2. Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

7.3. Specific end use(s)

Information not available

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory References:

ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020)
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	TLV-ACGIH	ACGIH 2021

1,2-PROPANEDIOL

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	
WEL	GBR	10		Particulates

Predicted no-effect concentration - PNEC

Normal value in fresh water	260	mg/l
Normal value in marine water	26	mg/l
Normal value for fresh water sediment	572	mg/kg
Normal value for marine water sediment	57,2	mg/kg
Normal value for water, intermittent release	183	mg/l
Normal value of STP microorganisms	20000	mg/l
Normal value for the terrestrial compartment	50	mg/kg

Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers	Acute systemic	Chronic local	Chronic systemic	Effects on workers	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation			10 mg/m3	50 mg/m3				10 mg/m3	168 mg/m3

CALCIUM HYDROXIDE

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations
		mg/m3	ppm	
VLEP	ITA	1	4	RESP
WEL	GBR	5		INHAL
WEL	GBR	1	4	RESP
OEL	EU	1	4	RESP
TLV-ACGIH		5		

Predicted no-effect concentration - PNEC

Normal value in fresh water	49	mg/l
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	COLKIM S.r.l.	Revision nr. 1 Dated 13/09/2022 First compilation
	BRODIM LIGHT	Printed on 13/09/2022 Page n. 6/17

Normal value in marine water	32	mg/l
Normal value for water, intermittent release	49	mg/l
Normal value of STP microorganisms	3	mg/l
Normal value for the terrestrial compartment	1080	mg/kg

Health - Derived no-effect level - DNEL / DMEL								
	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation	4 mg/m3		1 mg/m3		4 mg/m3		1 mg/m3	

2-BROMO-2-NITROPROPAN-1,3-DIOL								
Predicted no-effect concentration - PNEC								
Normal value in fresh water	1	mg/l						
Normal value in marine water	1	mg/l						
Normal value for fresh water sediment	41	mg/kg						
Normal value for marine water sediment	3	mg/kg						
Normal value for water, intermittent release	3	mg/l						
Normal value for the terrestrial compartment	5	mg/kg						

Health - Derived no-effect level - DNEL / DMEL								
	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral		0.5 mg/kg bw/d		0.18 mg/kg bw/d				
Inhalation	0.6 mg/m3		0.6 mg/m3	0.6 mg/m3	2.5 mg/m3	10.5 mg/m3	2.5 mg/m3	3.5 mg/m3
Skin	0.004 mg/cm2	2.1 mg/kg bw/d	0.004 mg/cm2	0.7 mg/kg bw/d	0.008 mg/cm2	6 mg/kg bw/d	0.008 mg/cm2	2 mg/kg bw/d

ETHYL ACETATE					
Threshold Limit Value					
Type	Country	TWA/8h	STEL/15min	Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm
VLEP	ITA	734	200	1468	400
WEL	GBR	734	200	1468	400
OEL	EU	734	200	1468	400
TLV-ACGIH		1441	400		

BRODIFACOUM					
Threshold Limit Value					
Type	Country	TWA/8h	STEL/15min	Remarks / Observations	
		mg/m3	ppm	mg/m3	ppm
TLV-ACGIH		0,002			ACGIH 2011
Predicted no-effect concentration - PNEC					
Normal value in fresh water		4	mg/l		
Normal value for fresh water sediment		43	mg/kg		

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

8.2. Exposure controls

8.2.1 APPROPRIATE ENGINEERING CONTROLS	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure. General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.	
	Type of Contaminant:	Air Speed:
	solvent, vapours, degreasing etc., evaporating from tank (in still air)	0.25-0.5 m/s (50-100 f/min)
	aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
	direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min)
	grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)
	Within each range the appropriate value depends on:	
	Lower end of the range	Upper end of the range
	1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
	2: Contaminants of low toxicity or of nuisance value only	2: Contaminants of high toxicity
	3: Intermittent, low production.	3: High production, heavy use
	4: Large hood or large air mass in motion	4: Small hood - local control only
Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.		
8.2.2 PERSONAL PROTECTION	    	
Eye and face protection	Safety glasses with side shields. Chemical goggles. Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]	
Skin protection	See Hand protection below	
Hands/feet protection	Wear chemical protective gloves, e.g. PVC. Wear safety footwear or safety gumboots, e.g. Rubber NOTE: The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective	

equipment, to avoid all possible skin contact. Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended. Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- frequency and duration of contact
- chemical resistance of glove material
- glove thickness
- dexterity.

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.
- Contaminated gloves should be replaced.

As defined in ASTM F-739-96 in any application, gloves are rated as:

- Excellent when breakthrough time > 480 min.
- Good when breakthrough time > 20 min.
- Fair when breakthrough time < 20 min.
- Poor when glove material degrades

For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times. Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

- Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.
- Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential.

Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Body protection

See Other protection below

Other protection

Overalls.P.V.C apron. Barrier cream. Skin cleansing cream. Eye wash unit.

Environmental exposure controls

Emissions from manufacturing processes, including those from ventilation equipment, should be controlled for compliance with environmental protection legislation. Product residues must not be discharged without control into wastewater or water courses.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	paste	Method:OPPTS 830.6303
Colour	blue	Method:OPPTS 830.6302
Odour	characteristic	Method:OPPTS 830.6304
Odour threshold	not available	Reason for missing data:Determination not required for safe use of the product
Melting point / freezing point	not available	Reason for missing data: Determination not required for safe use of the product
Initial boiling point	not available	Reason for missing data: Determination not required for safe use of the product
Flammability	not applicable	Reason for missing data: Determination not required for safe use of the product
		Reason for missing data:The product is not

Lower explosive limit	not applicable	flammable Reason for missing data: Not applicable to solids
Upper explosive limit	not applicable	Reason for missing data: Not applicable to solids
Flash point	not available	Reason for missing data: Not applicable to solids
Auto-ignition temperature	not applicable	Reason for missing data: Not applicable to solids
Decomposition temperature	not available	Reason for missing data: The mixture is not self-reactive
pH	6,8	Method: OECD test 122
Kinematic viscosity	not applicable	Reason for missing data: Not applicable to solids
Dynamic viscosity	not available	Reason for missing data: Not applicable to solids
Solubility	immiscible with water	
Partition coefficient: n-octanol/water	not applicable	Reason for missing data: Not determinable for mixtures
Vapour pressure	not available	Reason for missing data: Determination not required for safe use of the product
Density and/or relative density	1,07 g/cm ³	Method: OECD test 109
Relative vapour density	not applicable	Reason for missing data: Not applicable to solids
Particle characteristics		
Median equivalent diameter		
Remark:	The product is presented as a single compact block	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Information not available

9.2.2. Other safety characteristics

VOC (Directive 2010/75/EU) 1,89 % - 2.021,87 g/litre

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

2-BROMO-2-NITROPROPAN-1,3-DIOL

Decomposes on contact with: water, metals, strong bases.

ETHYL ACETATE

Decomposes slowly into acetic acid and ethanol under the effect of light, air and water.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

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Stable in normal conditions of use and storage.

10.3. Possibility of hazardous reactions

No hazardous reactions are foreseeable in normal conditions of use and storage.

ETHYL ACETATE

Risk of explosion on contact with: alkaline metals,hydrides,oleum.May react violently with: fluorine,strong oxidising agents,chlorosulphuric acid,potassium tert-butoxide.Forms explosive mixtures with: air.

10.4. Conditions to avoid

None in particular. However the usual precautions used for chemical products should be respected.

2-BROMO-2-NITROPROPAN-1,3-DIOL

Avoid exposure to: light,UV rays,moisture.

ETHYL ACETATE

Avoid exposure to: light,sources of heat,naked flames.

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Avoid exposure to: light,heat.

10.5. Incompatible materials

ETHYL ACETATE

Incompatible with: acids,bases,strong oxidants,aluminium,nitrates,chlorosulphuric acid.Incompatible materials: plastic materials.

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Incompatible with: strong oxidants.

10.6. Hazardous decomposition products

2-BROMO-2-NITROPROPAN-1,3-DIOL

May develop: nitric oxide,carbon oxides,hydrobromic acid.

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May develop: toxic fumes.

SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the

criteria specified in the applicable regulation for classification.

It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation - mists / powders) of the mixture:	> 5 mg/l
ATE (Oral) of the mixture:	>2000 mg/kg
ATE (Dermal) of the mixture:	Not classified (no significant component)

CALCIUM HYDROXIDE

LD50 (Dermal):	> 2500 mg/kg Rabbit
LD50 (Oral):	> 2000 mg/kg Rat - female

2-BROMO-2-NITROPROPAN-1,3-DIOL

LD50 (Dermal):	1600 mg/kg Rat
LD50 (Oral):	211 mg/kg Rat male
LC50 (Inhalation mists/powders):	0,588 mg/l/4h (Rat, male and female)

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LD50 (Dermal):	> 3,2 mg/kg
LD50 (Oral):	> 0,4 mg/kg
LC50 (Inhalation vapours):	> 3,05 mg/l/4h

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

STOT - REPEATED EXPOSURE

May cause damage to organs

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity**BRODIFACOUM**

LC50 - for Fish	0,042 mg/l/96h Rainbow trout
EC50 - for Crustacea	25 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	4 mg/l/72h Selenastrum capricornutum

2-BROMO-2-NITROPROPAN-1,3-DIOL

LC50 - for Fish	412 mg/l/96h (Oncorhynchus mykiss (Rainbow trout)):
EC50 - for Crustacea	1,4 mg/l/48h Daphnia magna
EC50 - for Algae / Aquatic Plants	37 mg/l/72h (Pseudokirchneriella subcapitata (alghe cloroficee)):
Chronic NOEC for Fish	215 mg/l Oncorhynchus mykiss (Rainbow trout)
Chronic NOEC for Crustacea	27 mg/l Daphnia magna
Chronic NOEC for Algae / Aquatic Plants	8 mg/l Skeletonema costatum

CALCIUM HYDROXIDE

LC50 - for Fish

457 mg/l/96h *Gasterosteus aculeatus*

EC50 - for Algae / Aquatic Plants

18457 mg/l/72h *Pseudokirchneriella subcapitata*

12.2. Persistence and degradability

BRODIFACOUM

NOT rapidly degradable

2-BROMO-2-NITROPROPAN-1,3-DIOL

Solubility in water

286000 mg/l

Rapidly degradable

ETHYL ACETATE

Solubility in water

> 10000 mg/l

Rapidly degradable

CALCIUM HYDROXIDE

Solubility in water

1000 - 10000 mg/l

12.3. Bioaccumulative potential

BRODIFACOUM

Partition coefficient: n-octanol/water

6,12

BCF

35134 fish

2-BROMO-2-NITROPROPAN-1,3-DIOL

Partition coefficient: n-octanol/water

0,22

ETHYL ACETATE

Partition coefficient: n-octanol/water

0,68

BCF

30

12.4. Mobility in soil

Information not available

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage $\geq$ than 0,1%.

12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.

CONTAMINATED PACKAGING

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

14.1. UN number or ID number

not applicable

14.2. UN proper shipping name

not applicable

14.3. Transport hazard class(es)

not applicable

14.4. Packing group

not applicable

14.5. Environmental hazards

not applicable

14.6. Special precautions for user

not applicable

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

SECTION 15. Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture**

Seveso Category - Directive 2012/18/EU: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product

Point 3 - 40

Contained substance

Point 75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

not applicable

Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage $\geq$ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has not been performed for the preparation/for the substances indicated in section 3.

This safety data sheet contains one or more Exposure Scenarios in an integrated form. Contents have been included in sections 1.2, 8, 9, 12, 15 and 16 of this safety data sheet.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Flam. Liq. 2	Flammable liquid, category 2
Repr. 1A	Reproductive toxicity, category 1A
Acute Tox. 1	Acute toxicity, category 1
Acute Tox. 3	Acute toxicity, category 3
Acute Tox. 4	Acute toxicity, category 4
STOT RE 1	Specific target organ toxicity - repeated exposure, category 1
STOT RE 2	Specific target organ toxicity - repeated exposure, category 2
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3

Aquatic Acute 1	Hazardous to the aquatic environment, acute toxicity, category 1
Aquatic Chronic 1	Hazardous to the aquatic environment, chronic toxicity, category 1
Aquatic Chronic 2	Hazardous to the aquatic environment, chronic toxicity, category 2
H225	Highly flammable liquid and vapour.
H360D	May damage the unborn child.
H300	Fatal if swallowed.
H310	Fatal in contact with skin.
H330	Fatal if inhaled.
H301	Toxic if swallowed.
H331	Toxic if inhaled.
H312	Harmful in contact with skin.
H372	Causes damage to organs through prolonged or repeated exposure.
H373	May cause damage to organs through prolonged or repeated exposure.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

LEGEND:

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

Note for users:

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

CALCULATION METHODS FOR CLASSIFICATION

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12.

Changes to previous review:

The following sections were modified:

01 / 02 / 03 / 04 / 05 / 06 / 07 / 08 / 09 / 10 / 11 / 12 / 13 / 14 / 15 / 16.