

This safety data sheet was created pursuant to the requirements of:
UK REACH Regulations (SI 2019/758 as amended)

Supersedes date 30-Oct-2015

Revision date 06-Mar-2026

Revision Number 2

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

1.1. Product identifier

Product Code(s)	20353
Safety data sheet number	20353
Product Name	DENATONIUM BENZOATE
EC Number	223-095-2
CAS No	3734-33-6
Synonyms	BITTER+PLUS, LIDOCAINE BENZYL BENZOATE, PHENYLMETHYL-[2-[(2,6-DIMETHYLPHENYL)AMINO]-2-OXOETHYL]-DIETHYLAMMONIUM BENZOATE, BITREX, BENZYLDIETHYL [(2,6-XYLYLCARBAMOYL)METHYL] AMMONIUM BENZOATE
Pure substance/mixture	Substance

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

Recommended use	Industrial use Professional use Consumer use Denaturant Bittering agent The product has a bitter taste for safety reasons, in case it is swallowed accidentally. Common uses for products: cosmetics, textile washing, household cleaner, personal care, automotive care, paints, pesticides/phytosanitary.
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Uses advised against	Use only for intended applications
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1.3. Details of the supplier of the safety data sheet

Supplier

Univar Solutions UK Ltd
Aquarius House
6 Mid Point Business Park
Bradford
GBR

For further information, please contact

E-mail address	SDS.EMEA@univarsolutions.com
Non-Emergency Telephone Number	+44 1274 267300 / +44 1274 267306

1.4. Emergency telephone number

Emergency Telephone	SGS - +32 (0)3 575 55 55 (24h)
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SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Acute toxicity - Oral	Category 4 - (H302)
Skin corrosion/irritation	Category 2 - (H315)
Serious eye damage/eye irritation	Category 2 - (H319)
Specific target organ toxicity — single exposure	Category 3 - (H335)
Category 3 Respiratory irritation	

2.2. Label elements



Signal word

Warning

Hazard statements

H302 - Harmful if swallowed

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

Precautionary statements

P261 - Avoid breathing dusts or mists

P270 - Do not eat, drink or smoke when using this product

P280 - Wear protective gloves/protective clothing/eye protection/face protection

P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell

P302 + P352 - IF ON SKIN: Wash with plenty of soap and water

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

2.3. Other hazards

Dust can form an explosive mixture with air.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical name	Weight-%	EC No (EU Index No)	UK REACH registration number	Classification according to GB CLP (SI 2020/1567 as amended)	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)
DENATONIUM BENZOATE	>= 99%	223-095-2	-	Acute Tox. 4 (H302) Skin Irrit. 2 (H315)	-	-	-

3734-33-6				Eye Irrit. 2 (H319) STOT SE 3 (H335)			
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Full text of H- and EUH-phrases: see section 16

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (UK REACH Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	Show this safety data sheet to the doctor in attendance.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately if symptoms occur.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Keep eye wide open while rinsing. Do not rub affected area. Get medical attention if irritation develops and persists. Do not apply neutralizing agents.
Skin contact	IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth thoroughly with water. Drink plenty of water. Do NOT induce vomiting. Get medical attention.
Self-protection of the first aider	Avoid contact with skin, eyes or clothing. Wear personal protective clothing (see section 8).

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

Eyes	May cause redness and tearing of the eyes.
Dermal	Erythema (skin redness).

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

Note to doctors	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media	Water spray. Polyvalent powder extinguishers (ABC powder).
Large Fire	CAUTION: Use of water spray when fighting fire may be inefficient.
Unsuitable extinguishing media	Do not scatter spilled material with high pressure water streams.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical	Exposure to combustion products may be a hazard to health.
Hazardous combustion products	Thermal decomposition may release: Carbon monoxide. Carbon dioxide (CO ₂). Nitrogen oxides (NO _x).

5.3. Advice for firefighters

Special protective equipment and precautions for fire-fighters

Dilute toxic gases with water spray. Firefighters should wear self-contained breathing apparatus and full firefighting turnout gear. Cool containers with flooding quantities of water until well after fire is out. Collect contaminated fire extinguishing water separately. Do not allow it to enter drains or surface water.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions

Ensure adequate ventilation. Avoid breathing dust. Avoid contact with eyes, skin and clothing. Use personal protection recommended in Section 8. Knock down/dilute dust cloud with water spray. Do not touch or walk through spilled material. Keep unnecessary and unprotected personnel from entering.

Other information

Refer to protective measures listed in Sections 7 and 8.

For emergency responders

Use personal protection recommended in Section 8.

6.2. Environmental precautions

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not allow runoff to sewer, waterway or ground. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up

Methods for containment

Prevent dust generation by adding water to spilled product, then sweep up into a closed container for disposal.

Methods for cleaning up

Clean contaminated objects and areas thoroughly observing environmental regulations. After cleaning, flush away traces with water.

Prevention of secondary hazards

Observe good chemical hygiene practices.

6.4. Reference to other sections

Reference to other sections

See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Avoid contact with eyes, skin and clothing. Avoid breathing dust. Dust can form an explosive mixture with air. Keep away from heat, sparks and open flame. Use explosion-proof electrical, ventilating and lighting equipment.

General hygiene considerations

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using the product. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas. Take off all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage Conditions

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep/store only in original container. Protect from direct sunlight. Protect from moisture. Keep away from open flames, hot surfaces and sources of ignition. Store away from incompatible materials.

Strong acids. Strong bases. Oxidising agents.

Packaging materials

Suitable container/equipment material: High density polyethylene (HDPE). Glass. Metal.
Avoid contact with: Paper. Cardboard.

7.3. Specific end use(s)**Specific use(s)**

See section 1 for more information.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters**Exposure Limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Biological occupational exposure limits

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers

Chemical name	Oral	Dermal	Inhalation
DENATONIUM BENZOATE 3734-33-6		1.43 mg/kg bw/day [4] [6]	4.99 mg/m ³ [4] [6]

[4] Systemic health effects.
[6] Long term.

Derived No Effect Level (DNEL) - General Public

Chemical name	Oral	Dermal	Inhalation
DENATONIUM BENZOATE 3734-33-6	0.51 mg/kg bw/day [4] [6]		0.768 mg/m ³ [4] [6]

[4] Systemic health effects.
[6] Long term.

Predicted No Effect Concentration (PNEC)

Chemical name	Freshwater	Freshwater (intermittent release)	Marine water	Marine water (intermittent release)	Air
DENATONIUM BENZOATE 3734-33-6	0.1 mg/L	1 mg/L	10 µg/L	0.1 mg/L	

Chemical name	Freshwater sediment	Marine sediment	Sewage treatment	Soil	Food chain
DENATONIUM BENZOATE 3734-33-6	25 mg/kg sediment dw	2.5 mg/kg sediment dw		4.95 mg/kg soil dw	

8.2. Exposure controls**Engineering controls**

Ensure adequate ventilation. Ensure that eyewash stations and safety showers are close to the workstation location. Dust can form an explosive mixture with air. Use explosion-proof ventilating equipment.

Personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles). According to EN 16321-1.

Hand protection

Chemical resistant gloves required for prolonged or repeated contact. Gloves must conform to standard EN 374. Ensure that the breakthrough time of the glove material is not exceeded. Refer to glove supplier for information on breakthrough time for specific gloves. Examples of acceptable glove barrier materials include: Nitrile rubber. Butyl rubber.

Gloves			
Duration of contact	PPE - Glove material	Glove thickness	Break through time
Long term (repeated)	Nitrile rubber Butyl rubber	0.11 mm	> 480 minutes

Skin and body protection

Dust impervious protective suit.

Respiratory protection

In case of inadequate ventilation wear respiratory protection. Dust mask or appropriate respirator.
P2.

Recommended filter type:**General hygiene considerations**

Handle in accordance with good industrial hygiene and safety practice. Do not eat, drink or smoke when using the product. Wash hands before breaks and immediately after handling the product. Remove contaminated clothing and protective equipment before entering eating areas. Take off all contaminated clothing and wash it before reuse.

Environmental exposure controls

Avoid release to the environment.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Physical state	Solid
Appearance	Granulate
Colour	white
Odour	Slight.
Odour threshold	No information available

Property**Values**

Melting point / freezing point	163 - 170 °C
Initial boiling point and boiling range	
Flammability	
Flammability Limit in Air	
Upper flammability or explosive limits	
Lower flammability or explosive	

Remarks • Method

No information available.
No information available.
The product is not flammable.
Not applicable.

limits		
Flash point		Not applicable.
Autoignition temperature		Not applicable.
Decomposition temperature	> 301 °C	No information available.
pH		No information available.
pH (as aqueous solution)	6 - 8	solution (2.5 %).
Kinematic viscosity		Not applicable.
Dynamic viscosity		Not applicable.
Water solubility	Soluble in water ≤ 42.6 g/l @ 25 °C	No information available.
Solubility(ies)	soluble in Ethanol 200 - 1000 g/l Acetone 1 - 10 g/l Ether 0.015 g/100 ml	No information available.
Partition coefficient	log Pow: 2.2	No information available.
Vapour pressure		No information available.
Relative density	0.385	@ 20 °C. OECD 109.
Bulk density		No information available
Liquid Density	No information available	No information available
Relative vapour density		Not applicable.
Particle characteristics		Crystalline.
Particle Size	>= 150 µm	
Particle Size Distribution	No information available	
Explosive properties	No information available	
Oxidising properties	No information available	
9.2. Other information		
VOC content	0%	

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity Stable under recommended storage conditions.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Avoid generation of dust. Keep away from heat, sparks and open flame. Ignition sources.

10.5. Incompatible materials

Incompatible materials Strong acids. Strong bases. Oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition yields toxic products which can be corrosive in the presence of moisture. Carbon monoxide. Carbon dioxide (CO₂). Nitrous Gases.

SECTION 11: Toxicological information

11.1. Information on toxicological effects**Information on likely routes of exposure****Product Information**

Inhalation	May cause irritation of respiratory tract.
Eye contact	Causes serious eye irritation.
Skin contact	Causes skin irritation.
Ingestion	Harmful if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms	Erythema (skin redness). May cause redness and tearing of the eyes.
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Acute toxicity**Numerical measures of toxicity****Component Information**

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
DENATONIUM BENZOATE	= 584 mg/kg (Rat)	> 2000 mg/kg (Rat)	= 0.2 mg/L (Rat) 4 h

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

Skin corrosion/irritation	Causes skin irritation.
Serious eye damage/eye irritation	Causes serious eye irritation.
Respiratory or skin sensitisation	Based on available data the classification criteria are not met.
Germ cell mutagenicity	Based on available data the classification criteria are not met.
Carcinogenicity	Based on available data the classification criteria are not met.
Reproductive toxicity	Based on available data the classification criteria are not met.

STOT - single exposure May cause respiratory irritation.

DENATONIUM BENZOATE (3734-33-6)

Method	Species	Exposure route	Effective dose	Exposure time	Results
					May cause respiratory irritation

STOT - repeated exposure Based on available data the classification criteria are not met.

Aspiration hazard Based on available data the classification criteria are not met.

Other adverse effects No information available.

SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity Based on available data, the classification criteria are not met. Not considered to be harmful to aquatic life.

DENATONIUM BENZOATE (3734-33-6)

Method	Species	Endpoint type	Effective dose	Exposure time	Results
	Danio rerio	LC50	> 100 mg/L	96 hours	
	Daphnia magna	EC50	> 500 mg/L	24 hours	
	Chlorella vulgaris	EC50	282.55 mg/L	72 hours	
	Toxicity to microorganisms	ErC50	512 mg/L	15 minutes	

12.2. Persistence and degradability

Persistence and degradability Not readily biodegradable.

DENATONIUM BENZOATE (3734-33-6)

Method	Exposure time	Value	Results
ISO 7827		15% Biodegradation	Not readily biodegradable

12.3. Bioaccumulative potential

Bioaccumulation Not likely to bioaccumulate.

Component Information

Chemical name	Partition coefficient
DENATONIUM BENZOATE	2.2

12.4. Mobility in soil

Mobility in soil No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment The product does not contain any substance(s) classified as PBT or vPvB.

Chemical name	PBT and vPvB assessment
DENATONIUM BENZOATE	The substance is not PBT / vPvB

12.6. Other adverse effects

No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products	Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.
Contaminated packaging	Do not reuse empty containers. Empty remaining contents. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: Transport information**IATA**

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****National regulations****Authorisations and/or restrictions on use:**

This product does not contain substances subject to authorisation (UK REACH - Annex XIV).

This product does not contain substances subject to restriction (UK REACH - Annex XVII).

Persistent Organic Pollutants

Not applicable

Export Notification requirements

Not applicable

Named dangerous substances per COMAH Regulations 2015 (as amended)

Not applicable

The Ozone-Depleting Substances Regulations 2015

Not applicable

The Biocidal Products Regulations 2001 (as amended)

Not applicable

The Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (as amended)

Not applicable

Poisons Act 1972 (Explosive Precursors) Regulations (as Amended)

Not applicable

International Inventories**TSCA**

Contact supplier for inventory compliance status

DSL/NDL

Contact supplier for inventory compliance status

EINECS/ELINCS

Contact supplier for inventory compliance status

ENCS

Contact supplier for inventory compliance status

IECSC

Contact supplier for inventory compliance status

KECI

Contact supplier for inventory compliance status

PICCS

Contact supplier for inventory compliance status

AIIC

Contact supplier for inventory compliance status

NZIoC

Contact supplier for inventory compliance status

Legend:**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List**EINECS/ELINCS** - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances**ENCS** - Japan Existing and New Chemical Substances**IECSC** - China Inventory of Existing Chemical Substances**KECL** - Korean Existing and Evaluated Chemical Substances**PICCS** - Philippines Inventory of Chemicals and Chemical Substances**AIIC** - Australian Inventory of Industrial Chemicals**NZIoC** - New Zealand Inventory of Chemicals**15.2. Chemical safety assessment****Chemical Safety Report**

A Chemical Safety Assessment has been carried out for this substance

SECTION 16: Other information**Key or legend to abbreviations and acronyms used in the safety data sheet****Full text of H-Statements referred to under section 3**

H302 - Harmful if swallowed

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H335 - May cause respiratory irritation

Legend

SVHC: Substances of Very High Concern for Authorisation:

PBT: Persistent, Bioaccumulative, and Toxic (PBT) Substances

vPvB: Very Persistent and very Bioaccumulative (vPvB) Substances

Legend Section 8: Exposure controls/personal protection

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitisers		

Revision Note [SDS sections updated 1 2 3 4 5 6 7 8 9 10 11 12 13 15 16](#)**Classification procedure**

Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	Calculation method
Acute inhalation toxicity - gas	Calculation method
Acute inhalation toxicity - vapour	Calculation method
Acute inhalation toxicity - dust/mist	Calculation method
Skin corrosion/irritation	Calculation method
Serious eye damage/eye irritation	Calculation method
Respiratory sensitisation	Calculation method
Skin sensitisation	Calculation method
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)
 Environmental Protection Agency
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 National Institute of Technology and Evaluation (NITE)
 Australian National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 U.S. National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organisation for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organisation for Economic Co-operation and Development High Production Volume Chemicals Programme
 Organisation for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

Prepared By J Forth

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This material safety data sheet complies with the requirements of UK REACH Regulations (SI 2019/758 as amended)
Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet