



SAFETY DATA SHEET TETRADONIUM BROMIDE

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

1.1. Product identifier

Product name	TETRADONIUM BROMIDE
Product number	21887
Synonyms; trade names	CETRIMIDE BP, CETRIMIDE PH. EUR., CETRIMIDE EP, CETRIMIDE POWDER, TETRADECYL TRIMETHYL AMMONIUM BROMIDE
REACH registration number	01-2119989161-33-XXXX
CAS number	1119-97-7
EC number	214-291-9

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

Identified uses	Cosmetics Pharmaceuticals Personal Care Antimicrobial
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1.3. Details of the supplier of the safety data sheet

Supplier	Univar Aquarius House 6 Mid Point Business Park Bradford BD3 7AY +44 1274 267300 +44 1274 267306 sds@univar.com
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1.4. Emergency telephone number

Emergency telephone	SGS - +32 (0)3 575 55 55 (24h)
Sds No.	21887

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards	Not Classified
Health hazards	Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 STOT SE 3 - H335 STOT RE 2 - H373
Environmental hazards	Aquatic Acute 1 - H400

2.2. Label elements

EC number	214-291-9
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Hazard pictograms



Signal word

Danger

Hazard statements

H302 Harmful if swallowed.
 H315 Causes skin irritation.
 H318 Causes serious eye damage.
 H335 May cause respiratory irritation.
 H373 May cause damage to organs (Gastro-intestinal tract) through prolonged or repeated exposure if swallowed.
 H400 Very toxic to aquatic life.

Precautionary statements

P260 Do not breathe dust.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
 P302+P352 IF ON SKIN: Wash with plenty of 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.
 P310 Immediately call a POISON CENTER/ doctor.
 P405 Store locked up.
 P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.1. Substances

Product name	TETRADONIUM BROMIDE
REACH registration number	01-2119989161-33-XXXX
CAS number	1119-97-7
EC number	214-291-9
Composition comments	The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse nose and mouth with water. Get medical attention.
Ingestion	Rinse mouth thoroughly with water. Do not induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Give plenty of water to drink. Get medical attention.
Skin contact	Remove contaminated clothing. Wash with plenty of water. Continue to rinse for at least 10 minutes. Get medical attention promptly if symptoms occur after washing.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention immediately. Continue to rinse.

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

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Inhalation	May cause respiratory irritation.
Ingestion	Harmful if swallowed. May cause stomach pain or vomiting. May cause damage to organs (Gastro-intestinal tract) through prolonged or repeated exposure if swallowed.
Skin contact	Irritating to skin.
Eye contact	Causes serious eye damage. May cause permanent damage if eye is not immediately irrigated.

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

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with the following media: Water spray. Foam. Powder.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of nitrogen. Hydrogen bromide (HBr).
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5.3. Advice for firefighters

Protective actions during firefighting	Contain and collect extinguishing water.
Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of dust and contact with skin and eyes. Provide adequate ventilation.
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6.2. Environmental precautions

Environmental precautions	Avoid discharge into water courses or onto the ground. Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Avoid generation and spreading of dust. Collect and place in suitable waste disposal containers and seal securely. For waste disposal, see Section 13.
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6.4. Reference to other sections

Reference to other sections	For personal protection, see Section 8. For waste disposal, see Section 13.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions	Wear protective clothing as described in Section 8 of this safety data sheet. Avoid inhalation of dust and contact with skin and eyes. Provide adequate ventilation.
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Advice on general occupational hygiene

Provide eyewash station and safety shower. When using do not eat, drink or smoke. Wash skin thoroughly after handling. Take off immediately all contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Store in tightly-closed, original container in a dry, cool and well-ventilated place. Protect against direct sunlight. Protect from humidity. Avoid contact with the following materials: Water, moisture. Strong oxidising agents.

7.3. Specific end use(s)

Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

4 mg/m³, TWA, Manuf. data

DNEL

- Inhalation; Short term local effects: 0.05 mg/m³
- Dermal; Short term local effects: 250 µg/cm²
- Inhalation; Long term systemic effects: 0.05 mg/m³
- Dermal; Long term systemic effects: 0.4 mg/kg/day
- Dermal; Long term local effects: 50 µg/cm²

PNEC

Fresh water; 0.000026 ppm
 marine water; 0.000026 ppm
 Intermittent release; 0.00054 ppm
 STP; 19 mg/l
 Soil; 0.21 mg/kg

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Observe any occupational exposure limits for the product or ingredients. Provide eyewash station and safety shower. Provide adequate general and local exhaust ventilation.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Unless the assessment indicates a higher degree of protection is required, the following protection should be worn: Wear chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacture, who can provide information about the breakthrough time of the glove material. It is recommended that gloves are made of the following material: Nitrile rubber. The selected gloves should have a breakthrough time of at least >8 hours. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact.

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Hygiene measures	Wash at the end of each work shift and before eating, smoking and using the toilet. When using do not eat, drink or smoke.
Respiratory protection	Respiratory protection must be used if the airborne contamination exceeds the recommended occupational exposure limit. Particulate filter, type P3. EN 136/140/141/145/143/149

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Powder.
Colour	White.
Odour	Odourless.
pH	pH (concentrated solution): ~6
Melting point	~245°C
Flash point	>93°C
Upper/lower flammability or explosive limits	No information available.
Vapour pressure	No information available.
Relative density	0.4-0.5
Solubility(ies)	~200 g/l water @ 20°C Soluble in the following materials: Ethanol. Methanol. Acetone.
Partition coefficient	log Pow: ~2.2
Auto-ignition temperature	210°C
Explosive properties	No information available.
Oxidising properties	Does not meet the criteria for classification as oxidising.

9.2. Other information

Other information	The substance is hygroscopic and will absorb water by contact with the moisture in the air.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	Stable at normal ambient temperatures and when used as recommended.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Under normal conditions of storage and use, no hazardous reactions will occur.
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10.4. Conditions to avoid

Conditions to avoid	Avoid exposure to high temperatures or direct sunlight. When exposed to air, this product will absorb moisture.
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10.5. Incompatible materials

Materials to avoid	Strong oxidising agents.
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10.6. Hazardous decomposition products

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Hazardous decomposition products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours. Oxides of nitrogen. Hydrogen bromide (HBr).

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) LD₅₀ 333-460 mg/kg, Oral, Rat

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ ~2150 mg/kg, Dermal, Rabbit

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LD₅₀ 1.8 mg/m³, Inhalation, Mouse

Skin corrosion/irritation

Animal data Irritating to skin.

Serious eye damage/irritation

Serious eye damage/irritation Causes serious eye damage.

Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure May cause damage to organs (Gastro-intestinal tract) through prolonged or repeated exposure if swallowed.

Aspiration hazard

Aspiration hazard No information available.

Inhalation

May cause respiratory irritation.

Ingestion

Harmful if swallowed. May cause stomach pain or vomiting.

Skin contact

Irritating to skin.

Eye contact

Causes serious eye damage.

SECTION 12: Ecological information

Ecotoxicity Very toxic to aquatic life.

12.1. Toxicity

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Acute aquatic toxicity

LE(C)₅₀ 0.001 < L(E)C₅₀ ≤ 0.01

M factor (Acute) 100

Acute toxicity - fish LC₅₀, 96 hours: 1.81 mg/l, Brachydanio rerio (Zebra Fish)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 0.022 mg/l, Daphnia magna

Acute toxicity - aquatic plants EC₅₀, 72 hours: ~0.005 mg/l, Pseudokirchneriella subcapitata

12.2. Persistence and degradability

Persistence and degradability The product is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Partition coefficient log Pow: ~2.2

12.4. Mobility in soil

Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not determined.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste is classified as hazardous waste. Do not puncture or incinerate, even when empty.

Disposal methods Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 3077

UN No. (IMDG) 3077

UN No. (ICAO) 3077

UN No. (ADN) 3077

14.2. UN proper shipping name

Proper shipping name (ADR/RID) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TETRADONIUM BROMIDE)

Proper shipping name (IMDG) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TETRADONIUM BROMIDE)

Proper shipping name (ICAO) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TETRADONIUM BROMIDE)

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Proper shipping name (ADN) ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (TETRADONIUM BROMIDE)

14.3. Transport hazard class(es)

ADR/RID class	9
ADR/RID classification code	M7
ADR/RID label	9
IMDG class	9
ICAO class/division	9
ADN class	9

Transport labels



14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III
ADN packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

EmS	F-A, S-F
ADR transport category	3
Hazard Identification Number (ADR/RID)	90
Tunnel restriction code	(-)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

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EU legislation

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Commission Regulation (EU) No 2015/830 of 28 May 2015.

This product may impact SEVESO storage regulations.

15.2. Chemical safety assessment

No information available.

SECTION 16: Other information

Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
 CAS: Chemical Abstracts Service.
 DNEL: Derived No Effect Level.
 IATA: International Air Transport Association.
 IMDG: International Maritime Dangerous Goods.
 Kow: Octanol-water partition coefficient.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 PBT: Persistent, Bioaccumulative and Toxic substance.
 PNEC: Predicted No Effect Concentration.
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 vPvB: Very Persistent and Very Bioaccumulative.
 IARC: International Agency for Research on Cancer.
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 cATpE: Converted Acute Toxicity Point Estimate.
 BCF: Bioconcentration Factor.
 BOD: Biochemical Oxygen Demand.
 EC₅₀: 50% of maximal Effective Concentration.
 LOAEC: Lowest Observed Adverse Effect Concentration.
 LOAEL: Lowest Observed Adverse Effect Level.
 NOAEC: No Observed Adverse Effect Concentration.
 NOAEL: No Observed Adverse Effect Level.
 NOEC: No Observed Effect Concentration.
 LOEC: Lowest Observed Effect Concentration.
 DMEL: Derived Minimal Effect Level.
 EL50: Exposure Limit 50
 hPa: Hectopascal
 LL50: Lethal Loading fifty
 OECD: Organisation for Economic Co-operation and Development
 POW: Octanol-water partition coefficient
 SCBA: self-contained breathing apparatus
 STP: Sewage Treatment Plant
 VOC: Volatile Organic Compounds

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Classification abbreviations and acronyms	Acute Tox. = Acute toxicity Aquatic Acute = Hazardous to the aquatic environment (acute) Aquatic Chronic = Hazardous to the aquatic environment (chronic)
Key literature references and sources for data	Supplier's information.
Revision comments	NOTE: Lines within the margin indicate significant changes from the previous revision.
Revision date	01/03/2019
Version number	2.000
Supersedes date	08/06/2010
SDS number	21887
SDS status	Approved.
Hazard statements in full	H302 Harmful if swallowed. H315 Causes skin irritation. H318 Causes serious eye damage. H335 May cause respiratory irritation. H373 May cause damage to organs (Gastro-intestinal tract) through prolonged or repeated exposure if swallowed. H400 Very toxic to aquatic life.
Signature	K Winter