

Safety Data Sheet

Bardac 205-M E

Version: 23.01.2006 / EN

1. Identification of the substance/preparation and of the company/undertaking

Trade name : Bardac 205-M E

Street address : Lonza Ltd
Muenchensteinerstrasse 38
CH-4002 Basel, Switzerland
Telephone: +41 61 316 81 11

Emergency telephone number : Lonza Ltd, CH-4002 Basel, Switzerland
Telephone: +41 61 313 94 94 (24h)

2. Composition/information on ingredients

Components / EC Label	Concentration
Quaternary ammonium compounds, di-C8-10-alkyldimethyl, chlorides (CAS-No.: 68424-95-3) (EEC-No.: 270-331-5) C, N; R22, R34, R50	ca. 30 % (*)
Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (CAS-No.: 68424-85-1) (EEC-No.: 270-325-2) C, N; R22, R34, R50	ca. 20 % (*)
Propan-2-ol (CAS-No.: 67-63-0) (EEC-No.: 200-661-7) F, Xi; R11, R36, R67	ca. 12 % (*)
Ethanol (CAS-No.: 64-17-5) (EEC-No.: 200-578-6) F; R11	ca. 4 % (*)
Water (CAS-No.: 7732-18-5) (EEC-No.: 231-791-2)	32 - 36 %

R-phrases see chapter 16

(*) Components with workplace control parameters see chapter 8

3. Hazards identification

Classification

Flammable.
Harmful in contact with skin and if swallowed.
Causes burns.
Very toxic to aquatic organisms.

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4. First aid measures

- Inhalation : Move to fresh air. Call a physician immediately. If breathing is irregular or stopped, administer artificial respiration.
- Skin contact : After contact with skin, wash immediately with plenty of soap and water. Call a physician immediately. Take off all contaminated clothing immediately.
- Eye contact : Immediately flush eye(s) with plenty of water. Call a physician immediately.
- Ingestion : Call a physician immediately. Clean mouth with water and drink afterwards plenty of water. Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person.

Notes to physician

- Symptoms : Causes severe irritation of eyes, skin and mucous membranes.

5. Fire-fighting measures

- Suitable extinguishing media : dry powder, water spray, foam
- Specific hazards during fire fighting : Heating or fire can release toxic gas.
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.
- Additional advice : Use water spray to cool unopened containers.

6. Accidental release measures

- Personal precautions : Use respirator when performing operations involving potential exposure to vapour of the product.
- Environmental precautions : Do not flush into surface water or sanitary sewer system.
- Methods for cleaning up : Contain and collect spillage with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).
- Additional advice : Sweep up to prevent slipping hazard.

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7. Handling and storage

Handling

Safe handling advice: : Avoid contact with skin and eyes. Provide sufficient air exchange and/or exhaust in work rooms.

Advice on protection against fire and explosion : Highly flammable. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharges.

Storage

Requirements for storage areas and containers : Keep container tightly closed. To maintain product quality, do not store in heat or direct sunlight. Keep in a dry, cool and well-ventilated place.

8. Exposure controls / personal protection

Components with workplace control parameters

Quaternary ammonium compounds, di-C8-10-alkyldimethyl, chlorides (CAS-No.: 68424-95-3)

Remarks : no data available

Quaternary ammonium compounds, benzyl-C12-16-alkyldimethyl, chlorides (CAS-No. 68424-85-1):

Remarks : no data available

Propan-2-ol (CAS-No. 67-63-0):

DFG-MAK/BAT/TRK (2002)

Exposure limit(s) : 200 ml/m³ 500 mg/m³
Damage to fetus unlikely if the occupational exposure limit values are not exceeded.

Short term exposure limit : Peak-limit category II(2)

Switzerland SUVA Limit Values (2003)

Exposure limit(s) : 200 ml/m³ 500 mg/m³
Damage to fetus unlikely if the occupational exposure limit values are not exceeded.

Short term exposure limit : 400 ml/m³ ; 1 000 mg/m³
4 times 15 min. per shift

US ACGIH

Exposure limit(s) : 200 ml/m³
Carcinogenicity: group A4

Short term exposure limit : 400 ml/m³

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IDLH value : 2 000 ppm

Ethanol (CAS-No. 64-17-5):

US ACGIH

Exposure limit(s) : 1 000 ml/m³
Carcinogenicity: group A4

DFG-MAK/BAT/TRK (2002)

Exposure limit(s) : 500 ml/m³ 960 mg/m³
Carcinogenicity: group 5
Damage to fetus unlikely if the occupational exposure
limit values are not exceeded.
mutagenic effects: group 5

Short term exposure limit : Peak-limit category II(2)

Switzerland SUVA Limit Values (2003)

Exposure limit(s) : 500 ml/m³ 960 mg/m³
Damage to fetus unlikely if the occupational exposure
limit values are not exceeded.

Short term exposure limit : 1 000 ml/m³ ; 1 920 mg/m³
4 times 15 min. per shift

IDLH value : 3 300 ppm

Personal protective equipment

Hygiene measures : Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Respiratory protection : Use respirator when performing operations involving potential exposure to vapour of the product.

Hand protection : Wear suitable gloves.

Eye protection : Wear eye/face protection.

Skin and body protection : Wear suitable protective clothing, gloves and eye/face protection.

9. Physical and chemical properties

Appearance

State of aggregation : liquid

Colour : colorless to yellowish

Odour : alcoholic

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pH	:	6,5 - 8 (10 g/l ; 20 °C)
Stock point	:	< 0 °C
Flash point	:	closed cup : ca. 30 °C Method: Abel-Pensky c.c. DIN 51755
Density	:	0,95 g/cm ³ (25 °C)
Water solubility	:	soluble
Solubility	:	Ethanol: ca. 30 g/l Isopropanol: ca. 70 g/l
Viscosity, dynamic	:	25 mPa.s (20 °C)

10. Stability and reactivity

Conditions to avoid:	:	no data available
Hazardous reactions	:	Stable under normal conditions.

11. Toxicological information

Acute oral toxicity (LD50)	:	366 mg/kg Species: rat Method: FIFRA
Acute dermal toxicity (LD50)	:	645 mg/kg Species: rabbit
Skin irritation	:	corrosive Species: rabbit Exposure time: 4 h Method: DOT
Eye irritation	:	corrosive Species: rabbit Exposure time: 24 h Method: DOT
Sensitization	:	not sensitizing Species: guinea pig Buehler Test

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12. Ecological information

Persistence and degradability

Biodegradability : Modified Sturm Test: 99 %
Testing period: 28 d
Method: US-EPA

The following ecotoxicological data refer to:

N,N-Didecyl-N,N-dimethylammonium chloride (CAS-No.: 7173-51-5)

Ecotoxicity effects

Toxicity to fish (LC50) : 1,0 mg/l
Species: Oncorhynchus mykiss (rainbow trout)
Acute toxicity
Exposure time: 96 h
Method: OECD Test Guideline 203

Toxicity to fish (NOEC) : 0,041 mg/l
Species: Oncorhynchus mykiss (rainbow trout)
Chronic toxicity
Exposure time: 21 d
Method: OECD 204

Toxicity to daphnia (EC50) : 0,094 mg/l
Species: Daphnia magna
Immobilization
Exposure time: 48 h
Method: EPA-FIFRA

Toxicity to daphnia (NOEC) : 0,010 mg/l
Species: Daphnia magna
Reproduction Test
Exposure time: 21 d
Method: OECD 211

Toxicity to algae (EbC50) : 0,026 mg/l
Species: Selenastrum capricornutum (green algae)
Growth inhibition
Exposure time: 96 h
Method: OECD Test Guideline 201

Toxicity to bacteria (EC10) : 0,13 mg/l
Species: Pseudomonas sp.
Growth inhibition
Exposure time: 16 h
Method: DIN 38412 Part 8

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Toxicity to bacteria (EC50) : 11 mg/l
Species: activated sludge
Respiration inhibition
Exposure time: 3 h
Method: OECD 209

Toxicity to soil dwelling organisms (NOEC) : $\geq 1\,000$ mg/kg
Species: earthworms
Acute toxicity
Exposure time: 14 d
Method: OECD 207

Persistence and degradability

Stability in water : Abiotic degradation
hydrolytically stable
Method: EPA-FIFRA

Biodegradability : OECD Confirmatory Test: 91 %
Testing period: 24 - 70 d
Method: OECD 303 A

Zahn-Wellens Test: 87 - 94 %
Testing period: 28 d
Method: OECD 302 B

Die-Away Test: 90 %
Testing period: 28 d
Method: OECD 301 A

CO₂ Evolution: 81 %
Testing period: 28 d
Method: US-EPA

The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

Bioaccumulative potential

Bioaccumulation : Does not bioaccumulate.
Bioconcentration factor (BCF): 81,00
Species: Bluegill sunfish
Exposure time: 46 d
Method: EPA-FIFRA

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N-Alkyl(C12-16)-N,N-dimethyl-N-benzylammonium chloride (CAS-No.: 68424-85-1)

Ecotoxicity effects

- Toxicity to fish (LC50) : 0,28 mg/l
Species: Pimephales promelas (fathead minnow)
Acute toxicity
Exposure time: 96 h
Method: US-EPA
- Toxicity to fish (LC50) : 0,93 mg/l
Species: Oncorhynchus mykiss (rainbow trout)
Acute toxicity
Exposure time: 96 h
Method: US-EPA
- Toxicity to fish (NOEC) : 0,032 mg/l
Species: Pimephales promelas (fathead minnow)
Early-life Stage
Exposure time: 34 d
Method: EPA-FIFRA
- Toxicity to fish (LC50) : 0,515 mg/l
Species: Bluegill sunfish
Acute toxicity
Exposure time: 96 h
Method: US-EPA
- Toxicity to daphnia (EC50) : 0,0058 mg/l
Species: Daphnia magna
Immobilization
Exposure time: 48 h
Method: EPA-FIFRA
- Toxicity to daphnia (NOEL) : 0,0042 mg/l
Species: Daphnia magna
Reproduction Test
Exposure time: 21 d
Method: EPA-FIFRA
- Toxicity to algae (ErC50) : 0,049 mg/l
Species: Selenastrum capricornutum (green algae)
Cell multiplication inhibition test
Exposure time: 72 h
Method: OECD Test Guideline 201
- Toxicity to bacteria (EC50) : 7,75 mg/l
Species: activated sludge
Respiration inhibition
Exposure time: 3 h
Method: OECD 209

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Toxicity to soil dwelling organisms (LC50) : 7 070 mg/kg
Species: earthworms
Acute toxicity
Exposure time: 14 d
Method: OECD 207

Mobility

Behaviour in environmental compartments : Adsorption/Soil immobile
Method: EPA-FIFRA

Persistence and degradability

Stability in water : hydrolytically stable
Method: EPA-FIFRA

Biodegradability : OECD Confirmatory Test: > 90 %
Method: OECD 303 A

Modified SCAS Test: > 99 %
Testing period: 7 d
Method: OECD 302 A

CO2 Evolution: 71,6 %
Readily biodegradable.
Testing period: 28 d
Method: OECD 301 B

CO2 Evolution: 95,5 %
Readily biodegradable.
Testing period: 28 d
Method: OECD 301 B

The surfactant(s) contained in this preparation complies(comply) with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents. Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

Bioaccumulative potential

Bioaccumulation : Does not bioaccumulate.
Bioconcentration factor (BCF): 79
Species: Bluegill sunfish
Exposure time: 35 d
Method: US-EPA

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13. Disposal considerations

- Waste from residues : The organic ingredients can be incinerated in a suitable installation when in accordance with local regulations.
- Contaminated packaging : Where possible recycling is preferred to disposal or incineration.

14. Transport information

- ADR : Class: 8
Packaging group: II
Classification Code: CF1
Labels: Corrosive substance No. 8
Flammable liquid No. 3
Risk No. : 83
- UN/ID No. : UN 2920
Proper shipping name : CORROSIVE LIQUID, FLAMMABLE, N.O.S.
(Alkyldimethylbenzylammoniumchloride / Isopropanol)
- RID : Class: 8
Packaging group: II
Classification Code: CF1
Labels: Corrosive substance No. 8
Flammable liquid No. 3
Risk No. : 83
- UN/ID No. : UN 2920
Proper shipping name : CORROSIVE LIQUID, FLAMMABLE, N.O.S.
(Alkyldimethylbenzylammoniumchloride / Isopropanol)
- IATA Cargo : Class: 8
Packaging group: II
Labels: Corrosive substance No. 8
Flammable liquid No. 3
Packing instruction (cargo aircraft): 812
- UN/ID No. : UN 2920
Proper shipping name : Corrosive liquid, flammable, n.o.s.
(Alkyldimethylbenzylammoniumchloride / Isopropanol)

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IATA Passenger	:	Class: 8 Packaging group: II Labels: Corrosive substance No. 8 Flammable liquid No. 3 Packing instruction (passenger and cargo aircraft): 808
UN/ID No.	:	UN 2920
Proper shipping name	:	Corrosive liquid, flammable, n.o.s. (Alkyldimethylbenzylammoniumchloride / Isopropanol)
IMDG-Code	:	Class: 8 Packaging group: II Labels: Corrosive substance No. 8 Flammable liquid No. 3 EmS: F-E , S-C
UN/ID No.	:	Marine pollutant: yes UN 2920
Proper shipping name	:	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Alkyldimethylbenzylammoniumchloride / Isopropanol)
49 CFR	:	Class: 8 Packaging group: II Labels: Corrosive substance No. 8 Flammable liquid No. 3
UN/ID No.	:	UN 2920
Proper shipping name	:	Corrosive liquids, flammable, n.o.s. (Alkyldimethylbenzylammoniumchloride / Isopropanol)
TDG	:	Class: 8 Packaging group: II Labels: Corrosive substance No. 8 Flammable liquid No. 3
UN/ID No.	:	UN 2920
Proper shipping name	:	CORROSIVE LIQUID, FLAMMABLE, N.O.S. (Alkyldimethylbenzylammoniumchloride / Isopropanol)

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15. Regulatory information

Additional advice : Classification and labelling according to Directive 1999/45/EC.

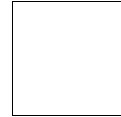
Symbol(s) :



Corrosive



Dangerous for the environment



R-phrases(s)

R10: Flammable.
R21/22: Harmful in contact with skin and if swallowed.
R34: Causes burns.
R50: Very toxic to aquatic organisms.

S-phrases(s)

S13: Keep away from food, drink and animal feedingstuffs.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28: After contact with skin, wash immediately with plenty of soap and water.
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
S61: Avoid release to the environment. Refer to special instructions/safety data sheets.

National legislation

Water contaminating class (Germany) : WGK 2: water endangering

16. Other information

Other regulations : The components of this product are reported in the following inventories: EINECS, TSCA.

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R-phrases(s)

R11	: Highly flammable.
R22	: Harmful if swallowed.
R34	: Causes burns.
R36	: Irritating to eyes.
R50	: Very toxic to aquatic organisms.
R67	: Vapours may cause drowsiness and dizziness.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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.