

MATERIAL SAFETY DATA SHEET

In compliance with Regulation (EC) No. 1907/2006 (REACH)
as amended by Regulation (EU) No. 453/2010

DENIOS.

bio.x Reiniger

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Version 4


Date: 2011-12-01

Supersedes the version from 2010-05-17

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier:** **bio.x Reiniger**
(product reference: 183543)
- 1.2 Relevant identified uses of the substance or mixture and uses advised against:**
Liquid formulation of non pathogenic micro-organisms cultures. Used in parts washer systems.
- 1.3 Details of the supplier of the safety data sheet:** **DENIOS AG**
Dehmer Str. 58-66
D-32549 Bad Oeynhausen
info@denios.de
Tel. 00 49 57317530
Fax: 00 49 5731/753-197
- 1.4 Emergency telephone number:** UK National Poisons Information Service:
0844 892 0111

2. HAZARDS IDENTIFICATION

- 2.1 Classification of the substance or mixture**
Classification according to the classification rules laid down in Directive 1999/45/EC:
The preparation is classified as:
Xi (Irritant)
R36 Irritating to eyes.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 2.2 Label elements :**
Symbol(s):

Indication(s) of danger: None.
Risk phrase(s):
R36 Irritating to eyes.
R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Safety advice:
S24/25 Avoid contact with skin and eyes.
Other applicable label elements:
Contains D limonene. May produce an allergic reaction.
- 2.3 Other hazards :**

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None identified.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Classification of the ingredients according to Directive 67/548/EEC:

Substance identifier	Conc. %	Symbols	R phrase	CAS No.	EC No.
Polyethoxylated Alcohols	5-10	Xn	22-41	68439-46-3	ND
Sulfonic acids sec alcanes C3-C17, sodium salt	< 5	Xi	36/38	85711-69-9,	288-330-3
Dodecylbenzene sulfonic acid	<5	Xn, C	22-34	27176-87-0	248-289-4.
Orange terpene	<1	Xn, N	10, 38, 43, 65, 50/53	8028-48-6	232-433-8
2-butoxyethanol	<1	Xn	R20/21/22 36/38	111-76-2	203-905-0
2-aminoethanol	<1	C, Xn	20/21/22, 34	141-43-5	205-483-3

Other ingredients are either not hazardous or are present at levels < thresholds set in Directive 1999/45/EC.

3.2 Classification of the ingredients according to Regulation (EC) No. 1272/2008:

Substance identifier	Conc. %	Hazard class and category code(s)	Pictogram, signal word code(s)	Hazards statement code	Specific conc. limits, M-factors	CAS No.	EC No.
Polyethoxylated Alcohols	5-10	Acute Tox. 4 * Eye Dam. 1	GHS05 GHS07 Danger	H302 H318	None	68439-46-3	ND
Orange terpene	<1	Asp. Tox. 1 Aq. Acute 1 Aq. Chronic 1 Flam. Liq. 3 Skin irrit. 2 Skin Sens. 1	GHS08 GHS02 GHS09 GHS07 Danger	H304 H400 H410 H226 H315 H317	1 (M-factor chronic)	8028-48-6	232-433-8
2-butoxyethanol	<1	Acute tox., 4, (inhalation); Acute tox., 4, (dermal); Acute tox, 4, (oral) Skin irrit., 2; Eye irrit., 2;	GHS07 Warning	H332 H312 H302 H315 H319	None	111-76-2	203-905-0
2-aminoethanol	<1	Acute tox., 4, (inhalation); Acute tox., 4, (dermal); Acute tox, 4, (oral) Skin corrosion., 1B; Eye irrit., 2;	GHS05 GHS07 Danger	H332 H312 H302 H314	none	141-43-5	205-483-3

Other ingredients are either not hazardous or are present at levels < thresholds set in Regulation (EC) No. 1272/2008.

Substances with exposure limits:

2-aminoethanol: Limit value - 8h = 2,5 mg/m³ and Limit value – Short term = 7,6 mg/m³

2-butoxyethanol: Limit value - 8h = 123 mg/m³ and Limit value – Short term = 246 mg/m³

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4. FIRST-AID MEASURES

4.1 Description of first aid measures:

Exposure by inhalation: Remove victim to fresh air. Rest and keep warm. If symptoms of irritation and/or sensitisation occur (shortness of breath, wheezing or laboured coughing) seek medical attention.

Exposure by skin: Immediately wash affected area thoroughly with soap and water. Seek medical attention if irritation develops.

Exposure by eye contact: Immediately flush eyes with plenty of water and seek medical advice.

Exposure by ingestion: Do not induce vomiting. Drink water to dilute. Seek medical advice.

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

Irritating to eyes.

Organisms used are non-pathogenic but can cause infection when in contact with open wounds.

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

Treat symptomatically.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media: All types of extinguishers may be used: water, foam.

5.2 Special hazards arising from substance or mixture:

If the substance is involved in a fire, oxides of carbon and nitrogen may be evolved.

5.3 Advice for firefighters: Self-contained breathing apparatus should be worn.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures:

Use protective equipment. Avoid formation of dust, splashing and formation of aerosols.

6.2 Environmental precautions:

None.

6.3 Methods and material for containment and cleaning-up:

Clean-up by collection.

Dispose of waste material in accordance with local or national regulations.

6.4 Reference to other sections:

For personal protective equipment, refer to section 8.

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7. HANDLING AND STORAGE

7.1 Precautions for safe handling:

Precautions: The substance should be handled under conditions of good industrial hygiene and in conformity with any local regulations in order to avoid unnecessary exposure. The product is formulated using a range of microorganisms specially selected from the natural environment and that are known to be non-pathogenic to humans, animals or plants. It is advised to cover open wounds when in use.

Technical measures: The use of gloves is recommended to reduce exposure to the preparation.

Specific requirements: None.

7.2 Conditions for safe storage, including any incompatibilities:

Specific design for storage rooms or vessels: None.

Incompatible materials: Strong acids or alkali compounds may inactivate biological cultures. Avoid strong oxidising agents. Do not store in metallic containers.

Conditions of storage: Store in a cool, dry, well-ventilated area. Keep containers tightly closed when not in use. Avoid freezing temperatures. Avoid temperatures above 45 °C to preserve biological stability.

Quantity limits: None.

Packaging materials: Packaging can be recycled.

7.3 Specific end use(s):

No information available.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters:

2-Butoxyethanol – CAS: 111-76-2
Limit value – 8 hours: 25 ppm or 123 mg/m³
Limit value – Short term: 50 ppm or 246 mg/m³

2-aminoethanol – CAS: 141-43-5
Limit value - Eight hours: 1 ppm or 2,5 mg/m³
Limit value - Short term: 3 ppm or 7,6 mg/m³

8.2 Exposure control:

8.2.1 Appropriate engineering controls:

None.

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8.2.2 Individual protection measures, such as personal protective equipment:

The user as part of a formal exposure risk assessment should decide upon the provision of personal protective equipment and the need to provide engineering control measures. Based upon the available toxicological information the protective measures described below should be regarded as a minimum.

Eye/face protection: Safety glasses, to prevent eye exposure, are recommended to be used when handling the product. The protection should be capable of giving chemical protection as classified in BS2092 or EN166.

Skin protection: Avoid contact with broken skin. In case of prolonged/frequent direct handling of the material it is recommended to wear chemical protective clothing compliant with NF EN ISO 13034 (type 6).

Respiratory protection:

No special ventilation is usually necessary. However if operating conditions create high airborne concentrations of this material, based upon available information and in the absence of occupational exposure limits the use of a vapour mask to a minimum standard of EN405 with filters compliant with NF EN143 norm (type FFA1P1) is recommended.

Hand protection: Avoid prolonged or frequent repeated skin contact, especially with broken skin. Chemical protective gloves to a standard EN374 should be provided. Usage periods should not exceed the breakthrough times for the chemical stated by the manufacturer of the glove.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties:

Appearance:	Yellow liquid.
Odour:	citrus/ orange.
pH:	9.
Boiling point/boiling range:	Not determined.
Melting point/melting range:	Not applicable.
Flash point:	Not determined.
Flammability (solid, gas):	Not applicable.
Autoflammability:	Not determined.
Explosive properties:	Predicted not explosive based on chemical structure.
Oxidising properties:	Not determined.
Vapour pressure:	Not determined.
Relative density:	Approx. 1.01 @ 25 °C.
Solubility	– Water solubility: Complete. – Fat solubility: Not determined.
Partition coefficient n-octanol/water:	Not determined.

9.2 Other information:

Viscosity 25 Cps.

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10. STABILITY AND REACTIVITY

- 10.1 Reactivity:** Not reactive.
- 10.2 Chemical stability:** Stable.
- 10.3 Possibility of hazardous reactions:**
If the substance is involved in a fire, oxides of carbon and nitrogen may be evolved.
- 10.4 Conditions to avoid:** Excessive temperature variations, below 0 °C or above 45 °C.
- 10.5 Incompatible materials:** Strong acids, alkali compounds and strong oxidising agents may inactivate biological cultures.
- 10.6 Hazardous decomposition products:**
None anticipated.

11. TOXICOLOGICAL INFORMATION

- 11.1 Information on toxicological effects:**
- 11.1.1 Acute toxicity:**
- | | |
|--|-----------------|
| Ingestion, LD50 Rat oral (mg/kg): | Not determined. |
| Inhalation, LC50 Rat inhalation (mg/l/4 hr): | Not determined. |
| Skin, LD50 Rat dermal (mg/kg): | Not determined. |
- 11.1.2 Irritation:**
- | | |
|------------------|-----------------|
| Eye irritation: | Irritant. |
| Skin irritation: | Not determined. |
- 11.1.3 Sensitisation:**
- | | |
|----------------|-----------------|
| Sensitisation: | Not determined. |
|----------------|-----------------|

12. ECOLOGICAL INFORMATION

- 12.1 Toxicity:** Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
No data on toxicity specifically to soil organisms, plants and terrestrial animals are available.
- 12.2 Persistence and degradability:**
The preparation is expected to biodegrade rapidly. However, no information on anaerobic biodegradation is available.
- 12.3 Bioaccumulative potential:** Not anticipated to bioaccumulate.
- 12.4 Mobility in soil:** No data available.
- 12.5 Other adverse effects:** There is no ozone depletion, photochemical ozone creation or global warming potential. Adverse effects in the sewage treatment plant are not anticipated.
- 12.6 Other information:** Class 1 microorganisms (European Federation of Biotechnology) selected from the natural environment.

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13. DISPOSAL CONSIDERATIONS

- 13.1 Waste treatment methods:** Dispose of by incineration or landfill in accordance with local regulations.
Empty packaging can be recycled or reused.
15 01 02 - plastic packaging

14. TRANSPORT INFORMATION

- 14.1 UN number:**
None.
- 14.2 UN proper shipping name:**
None.
- 14.3 Transport hazard class(es):**
Not applicable.
- 14.4 Packing group:**
Not applicable.
- 14.5 Environmental hazards:**
None.
- 14.6 Special precautions for user:**
None.
- 14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:**
Not applicable.

15. REGULATORY INFORMATION

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

Microbial classification:

All the bacteria contained in this formulation are of group 1 according to Directive 2000/54/EC (on the protection of workers from risks related to exposure to biological agents at work). Microorganisms from group 1 are unlikely to cause a human disease.

When handling the product, precautions described in Annex VI of Directive 2000/54/EC have to be taken into consideration in order to make a risk assessment.

Labelling according to Regulation (EC) No. 648/2004 (on detergents): To be declared.

COMPONENT	QUANTITY (%)
Non-ionic agent	5-10
EDTA	< 5
Fragrance Limonene	
1,2 Benzisothiazolin-3-one	

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15.2 Chemical safety assessment:

No chemical safety assessment has been carried out yet for this mixture.

16. OTHER INFORMATION

R phrases (according to Directive 67/548/EEC):

R10	Flammable.
R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.
R22	Harmful if swallowed
R34	Causes burns.
R36/38	Irritating to eyes and skin
R38	Irritating to skin
R41	Risk of serious damage to eyes
R43	May cause a sensitization by skin contact
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R65	Harmful: may cause lung damage if swallowed.

Hazards statement according to Regulation (EC) No. 1272/2008:

H302	Harmful if swallowed
H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Cause serious eye irritation
H332	Harmful if inhaled.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.

Pictogram code according to Regulation (EC) No. 1272/2008:

GHS02	Flame
GHS05	Corrosion
GHS07	Exclamation mark
GHS08	Health hazard
GHS09	Environment

Regulation (EC) No. 648/2004 (on detergents):

The surfactants contained in this preparation comply with the biodegradability criteria as laid down in Regulation (EC) 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.

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Sources:

Detailed composition.

SDS of ingredients.

ESIS website: <http://esis.jrc.ec.europa.eu/>

GESTIS-Substance Database: <http://www.dguv.de/ifa/en/gestis/stoffdb/index.jsp#>

Safety/classification: http://www.dsmz.de/microorganisms/bacterial_nomenclature.php

<http://www.biosafety.be/GB/WPProcGB.html>

Occupational exposure: <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:338:0087:0089:EN:PDF>

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:038:0036:0039:EN:PDF>

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CONSLEG;2000L0039;20060301:EN:PDF>

http://bgia-online.hvbg.de/LIMITVALUE/WebForm_gw.aspx

Miscellaneous:

This preparation is a concentrate intended to be put in suspension in water. Once in suspension, according to the manufacturer's instructions, the hazard label stated will no longer apply at the point of use.

Version 4: revised points 1-16 (2011-12-01).

The above information is based on the present state of our knowledge at the time of publication. It is given in good faith, no warranty is implied with respect to quality or specification of product. The user must satisfy himself that the product is entirely suitable.