

SAFETY DATA SHEET

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier:

STABROM® gog Biocide

UFI: P5MS-MoV3-V005-NVQ8

Product Code: FIN00246

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

Industrial laser water treatment for system chillers for industrial use.

Biocide product type: PT11

1.3. Details of the supplier of the safety data sheet:

Information about the distributor:

Richardson Electronics Benelux BV

Kruisweg 811, Building IV

Hoofddorp, 2132 NG

The Netherlands

Tel: (1)630-208-2683

1.3.1. Responsible person:

Daniel Rafdahl

E-mail:

danr@rell.com

1.4. Emergency telephone number:

United Kingdom: National Poisons Information Service (NPIS)

NHS 111 (England), NHS 24 (Scotland) or NHS Direct (Wales) – dial 111

In Northern Ireland contact your local GP

Healthcare Professionals: UK NPIS 0344 892 0111

Chemtrec: +44 20 3807 3798

USA:

Chemtrec: Regional: +44 20 3885 0382

USA Local: +1-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture:

Classification according to Regulation (EC) No 1272/2008 (CLP):

Corrosive to metals, Hazard Category 1 – H290

Skin corrosion/irritation, Hazard Category 1C – H314

Serious eye damage/eye irritation, Hazard Category 1 – H318

Hazard statements:

H290 – May be corrosive to metals.

H314 – Causes severe skin burns and eye damage.

H318 – Causes serious eye damage.

2.2. Label elements:

Active substance content: Sodium bromosulfamate and sodium chlorosulfamate: 18 %
Active bromine generated from bromine chloride (Redefined from Bromine chloride)
Components that define the hazards: Sodium hydroxide; Bromine chloride



Hazard statements:

H290 – May be corrosive to metals.

H314 – Causes severe skin burns and eye damage.

Precautionary statements:

P102 – Keep out of reach of children.

P260 – Do not breathe dust/fume/gas/mist/vapours/spray.

P280 – Wear protective gloves/protective clothing/eye protection/face protection.

P303 + P361 + P353 – IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

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.

P406 – Store in a corrosion-resistant aluminium container with a resistant inner liner.

P501 – Dispose of contents/container in accordance with local/regional/national/international regulations.

Note:

Biocide product, it should be packed/labelled according to Regulation (EU) No. 528/2012 of 22 May 2012 concerning the making available on the market and use of biocidal products.

2.3. Other hazards:

This product is toxic to fish and aquatic organisms.

Results of PBT and vPvB assessment: Inorganic, not applicable.

Endocrine disrupting property: Based on available data, does not contain endocrine disruptors.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances:

Not applicable.

3.2. Mixtures:

Chemical description: Stabilized bromine biocide, aqueous solution.

Hazardous ingredients:

Description	CAS number	EC number / ECHA list number	REACH registration number	Conc. (%)	Classification according to Regulation (EC) No 1272/2008 (CLP)		
					Pictogram, signal word code(s)	Hazard class and category code(s)	Hazard statement code(s)
Sulphamidic acid Index number: 016-026-00-0	5329-14-6	226-218-8	01-2119488633- 28-0012	<20	GHS07 Warning	Eye Irrit. 2 Skin Irrit. 2 Aquatic Chronic 3	H319 H315 H412
Sodium hydroxide*/** Index number: 011-002-00-6	1310-73-2	215-185-5	01-2119457892- 27-0189	10 – 20	GHS05 Danger	Met. Corr. 1 Skin Corr. 1A Eye Dam. 1	H290 H314 H318

Bromine chloride***	13863-41-7	237-601-4	-	<15	GHS02 GHS05 GHS06 GHS09 Danger	Ox. Liq. 2 Met. Corr. 1 Acute Tox. 3 Skin Corr. 1A Aquatic Acute 1	H272 H290 H331 H314 H400
----------------------------	------------	-----------	---	-----	--	---	--------------------------------------

*: Substance having occupational exposure limit value.

** : Classification specified by the manufacturer that includes other classification in addition to the classification specified by Regulation (EC) No 1272/2008.

***: Classification specified by the manufacturer; the substance is not listed in Annex VI of the Regulation (EC) No 1272/2008.

Total Halogen (calculated as bromine = approximately 15%)
(calculated as chlorine = approximately 7%)

Specific concentration limits:

Sodium hydroxide (CAS: 1310-73-2):

Skin Corr. 1A; H314: $C \geq 5\%$

Skin Corr. 1B; H314: $2\% \leq C < 5\%$

Skin Irrit. 2; H315: $0,5\% \leq C < 2\%$

Eye Irrit. 2; H319: $0,5\% \leq C < 2\%$

For the full text of hazard statements, see Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures:

INGESTION:

Measures:

- Call a physician or Poison Control Center immediately.
- Have person sip a glass of water if able to swallow.
- Do not induce vomiting without medical advice.
- Never give anything by mouth to an unconscious person.
- Probable mucosal damage may contraindicate the use of gastric lavage.

INHALATION:

Measures:

- Take the victim into fresh air.

SKIN CONTACT:

Measures:

- If on skin or clothing, take off contaminated clothing.
- Rinse skin immediately with plenty of water for 15-20 minutes.
- Call a poison control center or doctor for treatment advice.

EYE CONTACT:

Measures:

- If in eyes, hold eye open and rinse slowly and gently with water for 15-20 minutes.
- Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.
- Call a poison control center or doctor for treatment advice.

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

Causes severe skin burns and eye damage.

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

If medical advice is needed: Have product container or label at hand.

Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media:

5.1.1. Suitable extinguishing media:

Water fog, foam, dry chemical, carbon dioxide.

Choose extinguishing media depending on surrounding fire.

5.1.2. Unsuitable extinguishing media:

No data available.

- 5.2. **Special hazards arising from the substance or mixture:**
In case of fire, smoke and other combustion products may be formed; the inhalation of such combustion products can have serious adverse effects on health.
Do not breathe smoke and vapour.
- 5.3. **Advice for firefighters:**
Wear full protective clothing and self-contained breathing apparatus (EN 133).

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1. **Personal precautions, protective equipment and emergency procedures:**
- 6.1.1. **For non-emergency personnel:**
Allow only well-trained experts wearing suitable protective clothing to abide in the field of accident.
- 6.1.2. **For emergency responders:**
Ensure adequate ventilation.
Use personal protection recommended in Section 8.
- 6.2. **Environmental precautions:**
Dispose of the spillage and the resulting waste according to the applicable environmental regulations. Do not allow the product and the resulting waste to enter sewers/soil/surface or ground water. Notify the respective authorities in accordance with local law in the case of environmental pollution immediately.
- 6.3. **Methods and material for containment and cleaning up:**
Prevent further leakage or spillage if safe to do so.
Take up small spills with dry chemical absorbent. Large spills may be taken up with pump or vacuum and finished off with dry chemical absorbent. May require excavation of contaminated soil.
- 6.4. **Reference to other sections:**
For further and detailed information see Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

- 7.1. **Precautions for safe handling:**
Observe conventional hygiene precautions.
Avoid contact with skin, eyes and clothing.
Handle in accordance with good industrial hygiene and safety practice.
Technical measures:
No special measures required.
Precautions against fire and explosion:
No special measures required.
- 7.2. **Conditions for safe storage, including any incompatibilities:**
Technical measures and storage condition:
Avoid freezing, excessive heat or exposure to light, especially direct sunlight. If heating is necessary to prevent freezing, care must be taken to prevent overheating.
Precautions should be taken to ensure that the average product temperature is maintained below 43 °C.
Temperature monitoring is recommended.
At elevated temperatures, self-heating can lead to vigorous gas generation and over-pressurization of storage containers if appropriate controls are not in place.
Avoid exposure of this product to incompatible materials/chemicals (see section 10).
Use of incompatible materials can promote the exothermic decomposition of the product.
In extreme cases, this could result in vigorous gas formation and over-pressurization of the storage container.
STORAGE CONTAINER:
Vented and opaque containers: As the product ages, activity is gradually lost and pressure can build-up in the headspace (nitrogen); therefore, the product should be stored in vented containers. Product should also be stored in opaque containers to prevent exposure to light. To maximize product shelf life, store the product in an opaque container, in a cool, dry, well-ventilated area.
Incompatible materials: See Section 10.5.
Packaging material: No special prescriptions.
- 7.3. **Specific end use(s):**
No specific instructions available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

Occupational exposure limit values (EH40/2005 Workplace exposure limits):

Sodium hydroxide (CAS: 1310-73-2): 15-minute: 2 mg/m³

Decomposition products during use:

Bromine (CAS: 7726-95-6): 8-hour TWA: 0.1 ppm, 0.66 mg/m; 15-minute: 0.2 ppm, 1.3 mg/m³

Chlorine (CAS: 7782-50-5): 15-minute: 0.5 ppm, 1.5 mg/m³

DNEL values		Oral exposure		Dermal exposure		Inhalative exposure	
		Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)	Short term (acute)	Long term (chronic)
Consumer	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	no data	no data	no data
Worker	Local	no data	no data	no data	no data	no data	no data
	Systemic	no data	no data	no data	no data	no data	no data

PNEC values		
Compartment	Value	Note(s)
Freshwater	no data	no notes
Marine water	no data	no notes
Freshwater sediment	no data	no notes
Marine water sediment	no data	no notes
Sewage Treatment Plant (STP)	no data	no notes
Intermittent release	no data	no notes
Secondary poisoning	no data	no notes
Soil	no data	no notes

8.2. Exposure controls:

In case of a hazardous material with no controlled concentration limit it is the employer's duty to keep concentration levels down to a minimum achievable by existing scientific and technological means, where the hazardous substance poses no harm to workers.

8.2.1. Appropriate engineering controls:

In pursuance of work is proper foresight needed to avoid leaking onto clothes and floors and to avoid contact with eyes and skin. Use only in well-ventilated areas.

Provide eyewash facilities and emergency showers.

8.2.2. Individual protection measures, such as personal protective equipment:

- Eye/face protection:** Use appropriate protective glasses or face shield (EN ISO 16321-1:2022; EN 166).
- Skin protection:**
 - Hand protection:** Use appropriate protective gloves (EN 374).
The glove material should be resistant to the product.
 - Other:** Use appropriate, chemically resistant protective clothing.
- Respiratory protection:** Not required under normal conditions. In case of insufficient ventilation wear suitable respiratory equipment.
- Thermal hazards:** No thermal hazards known.

8.2.3. Environmental exposure controls:

No specific prescription.

The requirements detailed in Section 8 assume skilled work under normal conditions and usage of the product for appropriate aims. If conditions differ from normal or work is carried out under extreme conditions, an expert's advice is necessary before deciding upon further protective measures.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Parameter	Value / Test method / Remarks
1. Physical state	liquid
2. Colour	yellow, orange
3. Odour, odour threshold	mild
4. Melting point/freezing point	ca. 0 °C
5. Boiling point or initial boiling point and boiling range	ca. 106 °C
6. Flammability	not applicable
7. Lower and upper explosion limit	no data*
8. Flash point	no data*
9. Auto-ignition temperature	no data*
10. Decomposition temperature	no data*
11. pH	12.4 – 14.0
12. Kinematic viscosity	2 cSt (25 °C)
13. Solubility in water in other solvents	miscible no data*
14. Partition coefficient n-octanol/water (log value)	no data*
15. Vapour pressure	ca. 19 mm Hg (25 °C)
16. Density and/or relative density	1.29 – 1.37 (25 °C)
17. Relative vapour density	no data*
18. Particle characteristics	no data*

9.2. Other information:

9.2.1. Information with regard to physical hazard classes:

No further data available or not applicable for the product.

9.2.2. Other safety characteristics:

No other characteristics available.

*: The manufacturer did not carry out any tests on this parameter for the product or the results of the tests are not available at the time of publication of the data sheet, or the property is not applicable for the product.

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:

Use of incompatible materials can promote the exothermic decomposition of the product.

May be corrosive to metals.

10.2. Chemical stability:

Stable under normal conditions.

10.3. Possibility of hazardous reactions:

No hazardous reactions expected under normal processing.

10.4. Conditions to avoid:

Protect from light. Extremes of temperature and direct sunlight. Keep away from heat. Freezing.

10.5. Incompatible materials:

This product is strongly basic and an oxidizing agent. Avoid contact with alcohols, aldehydes, strong reducing agents, strong oxidizers, acids, ammonia-containing products, and common metals such as steel, aluminium, iron and copper.

10.6. Hazardous decomposition products:

Bromine, chloride.

SECTION 11: TOXICOLOGICAL INFORMATION

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

Acute toxicity: Based on available data, the classification criteria are not met.

Skin corrosion/irritation: Causes severe skin burns and eye damage.

Serious eye damage/irritation: Causes serious eye damage.

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: Based on available data, the classification criteria are not met.

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.

11.1.1. **Summaries of the information derived from the test conducted:**

No data available.

11.1.2. **Relevant toxicological properties:**

Information about the product:

Acute toxicity:

Data obtained from tests on used product.

LD₅₀ (oral, rat): 2491 mg/kg

LD₅₀ (dermal, rat): >2000 mg/kg

LC₅₀ (inhalation, aerosol, rat): >2.09 mg/l/4 hours (Highest achievable concentration)

Skin corrosion/irritation:

Data obtained from tests on used product. Skin irritation (rabbit) (4 hr): Corrosive to skin.

Serious eye damage/irritation:

Corrosive. Risk of serious damage to eyes.

Respiratory or skin sensitisation:

Data obtained from tests on used product: Buehler Test. (guinea pig): Not sensitizing.

Germ cell mutagenicity:

Information based on individual components. Not expected to be mutagenic.

Carcinogenicity:

Information based on individual components. No evidence of carcinogenicity.

Reproductive toxicity:

Information based on individual components. No indication of effects on fertility or embryonic development in the absence of severe systemic toxicity.

STOT-repeated exposure:

Information based on individual components. Chronic effects of overexposure: No significant adverse health effects.

Aspiration hazard:

11.1.3. **Information on likely routes of exposure:**

Ingestion, inhalation, skin contact, eye contact.

11.1.4. **Symptoms related to the physical, chemical and toxicological characteristics:**

No data available.

11.1.5. **Delayed and immediate effects as well as chronic effects from short and long-term exposure:**

Causes severe skin burns and eye damage.

Causes serious eye damage.

11.1.6. **Interactive effects:**

No data available.

11.1.7. **Absence of specific data:**

No information.

11.2. Information on other hazards:

Endocrine disrupting properties:

Endocrine disrupting property: Based on available data, does not contain endocrine disruptors.

Other information:

No data available.

SECTION 12: ECOLOGICAL INFORMATION

- 12.1. Toxicity:**
The mixture is not classified as hazardous for the environment.
Data obtained from tests on used product:
LC₅₀ (Lepomis macrochirus): 3.8 mg whole material/l/96 hours
EC₅₀ (Daphnia magna): 4.8 mg whole material/l/48 hours
IC₅₀ (Selenastrum capricornutum): 2.6 mg whole material/l/96 hours
- 12.2. Persistence and degradability:**
Inorganic, not applicable.
- 12.3. Bioaccumulative potential:**
Inorganic, not applicable.
- 12.4. Mobility in soil:**
Not expected to adsorb on soil.
- 12.5. Results of PBT and vPvB assessment:**
Inorganic, not applicable.
- 12.6. Endocrine disrupting properties:**
Endocrine disrupting property: Based on available data, does not contain endocrine disruptors.
- 12.7. Other adverse effects:**
This product is toxic to fish and aquatic organisms.
Water hazard class (WGK, German regulation, self-classification): 2 – hazardous for water.

SECTION 13: DISPOSAL CONSIDERATIONS

- 13.1. Waste treatment methods:**
Disposal according to the local regulations.
- 13.1.1. Information regarding the disposal of the product:**
Dispose in a safe manner in accordance with local/national regulations.
List of Waste Code:
No waste disposal key according to the List of Waste Code (LoW code) can be determined for this product, as only the purpose of application defined by the user enables an allocation. The LoW code number has to be determined after a discussion with a waste disposal specialist.
- 13.1.2. Information regarding the disposal of the packaging:**
Dispose of in accordance with applicable regulations.
- 13.1.3. Physical/chemical properties that may affect waste treatment options shall be specified:**
No data available.
- 13.1.4. Sewage disposal:**
No data available.
- 13.1.5. Special precautions for any recommended waste treatment:**
No data available.

SECTION 14: TRANSPORT INFORMATION

- 14.1. UN number or ID number:**
UN 3266
- 14.2. UN proper shipping name:**
ADR/RID: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Halogenated complex, Sodium hydroxide)
IMDG; IATA: CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S. (Halogenated complex, Sodium hydroxide)
- 14.3. Transport hazard class(es):**
Class: 8
Labels: 8
- 14.4. Packing group:**
III
- 14.5. Environmental hazards:**
No relevant information available.

14.6. Special precautions for user:

ADR/RID: Tunnel restriction code: E
Classification code: C₅
Hazard identification number: 80
IMDG: EmS: F-A, S-B
IATA: Passenger Aircraft: Forbidden (Product is shipped in containers with vented caps)
Cargo aircraft only: Forbidden (Product is shipped in containers with vented caps)

14.7. Maritime transport in bulk according to IMO instruments:

Not applicable.

SECTION 15: REGULATORY INFORMATION

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

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), establishing a European Chemicals Agency, amending Directive (EC) No 1999/45 and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive (EEC) No 76/769 and Commission Directives (EEC) No 91/155, (EEC) No 93/67, (EC) No 93/105 and (EC) No 2000/21

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, amending and repealing Directives (EEC) No 67/548 and (EC) No 1999/45, and amending Regulation (EC) No 1907/2006

COMMISSION REGULATION (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

REGULATION (EU) No 528/2012 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 May 2012 concerning the making available on the market and use of biocidal products

15.2. Chemical safety assessment: Not applicable.

SECTION 16: OTHER INFORMATION

Information regarding the revision of the safety data sheet: No information.

Literature references / data sources:

Safety data sheet issued by the manufacturer (15. 05. 2018, version 2.02, EN)

Methods used for the classification according to Regulation (EC) No 1272/2008:

Classification	Method
Corrosive to metals, Hazard Category 1 – H ₂₉₀	Based on test methods (test data)
Skin corrosion/irritation, Hazard Category 1C – H ₃₁₄	Based on calculation method
Serious eye damage/eye irritation, Hazard Category 1 – H ₃₁₈	Based on calculation method

Relevant hazard statements (code and full text) of Sections 2 and 3:

H₂₇₂ – May intensify fire; oxidiser.
H₂₉₀ – May be corrosive to metals.
H₃₁₄ – Causes severe skin burns and eye damage.
H₃₁₅ – Causes skin irritation.
H₃₁₈ – Causes serious eye damage.
H₃₁₉ – Causes serious eye irritation.
H₃₃₁ – Toxic if inhaled.
H₄₀₀ – Very toxic to aquatic life.
H₄₁₂ – Harmful to aquatic life with long lasting effects.

Training advice: No data available.

Full text of the abbreviations in the safety data sheet:

ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
ADR: Agreement concerning the International Carriage of Dangerous Goods by Road.
ATE: Acute Toxicity Estimate.
AOX: Adsorbable organic halides.
BCF: Bioconcentration factor.
BOD: Biological Oxygen Demand.
CAS number: Chemical Abstract Service number.
CLP: Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
CMR effects: Carcinogenic, mutagenic, reprotoxic effects.
COD: Chemical Oxygen Demand.
CSA: Chemical Safety Assessment.
CSR: Chemical Safety Report.
DNEL: Derived-No-Effect-Level.
ECHA: European Chemical Agency.
EC: European Community.
EC number: EINECS and ELINCS numbers (see also EINECS and ELINCS).
EEC: European Economic Community.
EEA: European Economic Area (EU + Iceland, Liechtenstein and Norway).
EINECS: European Inventory of Existing Commercial Chemical Substances.
ELINCS: European List of Notified Chemical Substances.
EN: European Norm.
EU: European Union.
EuPCS: European Product Categorisation System.
EWC: European Waste Catalogue (replaced by LoW – see below).
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
IATA: International Air Transport Association.
ICAO-TI: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
IMO: International Maritime Organization.
IMSBC: International Maritime Solid Bulk Cargoes.
IUCLID: International Uniform Chemical Information Database.
IUPAC: International Union of Pure and Applied Chemistry.
Kow: n-Octanol - Water Partition Coefficient.
LC₅₀: Lethal concentration resulting in 50 % mortality.
LD₅₀: Lethal dose resulting in 50 % mortality (median lethal dose).
LoW: List of Waste.
LOEC: Lowest Observed Effect Concentration.
LOEL: Lowest Observed Effect Level.
NOEC: No Observed Effect Concentration.
NOEL: No Observed Effect Level.
NOAEC: No Observed Adverse Effect Concentration.
NOAEL: No Observed Adverse Effect Level.
OECD: Organization for Economic Cooperation and Development.
OSHA: Occupational Safety and Health Administration.
PBT: Persistent, Bioaccumulative and Toxic.
PNEC: Predicted No Effect Concentration.
QSAR: Quantitative Structure Activity Relationship.
REACH: Regulation 1907/2006/EC concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.
RID: Regulations Concerning the International Transport of Dangerous Goods by Rail.
SCBA: Self Contained Breathing Apparatus.
SDS: Safety Data Sheet.
STOT: Specific Target Organ Toxicity.
SVHC: Substances of Very High Concern.
UN: United Nations.
UVCB: Chemical Substances of Unknown or Variable Composition, Complex Reaction Products or of Biological Materials.
VOC: Volatile Organic Compound.
vPvB: very Persistent and very Bioaccumulative.

This safety data sheet had been prepared on the basis of information provided by the manufacturer/supplier and conform to the relevant regulations.

The information, data and recommendations contained herein are provided in good faith, obtained from reliable sources and believed to be true and accurate as of the date issued; however, no representation is made as to the comprehensiveness of the information.

The SDS shall be used only as a guide for handling the product; in the course of handling and using the product other considerations may arise or be required.

Users are cautioned to determine the appropriateness and applicability of the above information to their particular circumstances and purposes and assume all risk associated with the use of this product.

It is the responsibility of the user to fully comply with local, national and international regulations concerning the use of this product.

Safety data sheet was prepared by:

MSDS-Europe
International branch of ToxInfo Kft.

Professional help regarding
the explanation of the safety
data sheet:

+36 70 335 8480; info@msds-europe.com
www.msds-europe.com

