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Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

Revision date / version: 28.06.2017 / 0004

Replacing version dated / version: 07.03.2017 / 0003

Valid from: 28.06.2017

PDF print date: 03.07.2017

safety cartridges for use in

Art.: 44513

# Safety data sheet according to Regulation (EC) No 1907/2006, Annex II

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

### 1.1 Product identifier

**safety cartridges for use in  
Art.: 44513**

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

Relevant identified uses of the substance or mixture:

Cartridge

Sector of use [SU]:

SU19 - Building and construction work

SU22 - Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Chemical product category [PC]:

PC11 - Explosives

Article Categories [AC]:

AC99 - Not required.

Environmental Release Category [ERC]:

ERC99 - Not required.

Uses advised against:

No information available at present.

### 1.3 Details of the supplier of the safety data sheet

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Albert Berner Deutschland GmbH, Bernerstrasse 4, 74653 Künzelsau, Germany

Phone: +49 79 40 12 10, Fax: +49 79 40 12 13 00

info@berner.de, www.berner.de

Details of the supplier of the safety data sheet see section 16 of this safety data sheet.

Qualified person's e-mail address: info@chemical-check.de, k.schnurbusch@chemical-check.de Please DO NOT use for requesting Safety Data Sheets.

### 1.4 Emergency telephone number

Emergency information services / official advisory body:

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Telephone number of the company in case of emergencies:

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+49 (0) 700 / 24 112 112 (BRC)

## SECTION 2: Hazards identification

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) 1272/2008 (CLP)

**Hazard class    Hazard category    Hazard statement**

Expl.                      Division 1.4                      H204-Fire or projection hazard.

### 2.2 Label elements

Labeling according to Regulation (EC) 1272/2008 (CLP)



Danger

H204-Fire or projection hazard.

P210-Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P234-Keep only in original packaging. P280-Wear protective gloves / protective clothing and eye protection / face protection.

P370+P372+P380+P373-In case of fire: Explosion risk. Evacuate area. DO NOT fight fire when fire reaches explosives. P370+P380+P375-In case of fire: Evacuate area. Fight fire remotely due to the risk of explosion.

### 2.3 Other hazards

The mixture does not contain any vPvB substance (vPvB = very persistent, very bioaccumulative) or is not included under XIII of the regulation (EC) 1907/2006 (&lt; 0,1 %).

The mixture does not contain any PBT substance (PBT = persistent, bioaccumulative, toxic) or is not included under XIII of the regulation (EC) 1907/2006 (&lt; 0,1 %).

## SECTION 3: Composition/information on ingredients

Materials are integrated into the product and should not lead to any exposure under normal handling conditions.

### 3.1 Substance

n.a.

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### 3.2 Mixture

<b>Glycerol trinitrate</b>	<b>Substance for which an EU exposure limit value applies.</b>
<b>Registration number (REACH)</b>	---
<b>Index</b>	603-034-00-X
<b>EINECS, ELINCS, NLP</b>	200-240-8
<b>CAS</b>	55-63-0
<b>content %</b>	25-<50
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Expl. Unstable Explosive, H200 Acute Tox. 1, H330 Acute Tox. 1, H310 Acute Tox. 1, H300 STOT RE 2, H373 Aquatic Chronic 2, H411

<b>lead 2,4,6-trinitro-m-phenylene dioxide</b>	<b>SVHC-substance</b>
<b>Registration number (REACH)</b>	---
<b>Index</b>	609-019-00-4
<b>EINECS, ELINCS, NLP</b>	239-290-0
<b>CAS</b>	15245-44-0
<b>content %</b>	2,5-<10
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Expl. Unstable Explosive, H200 Repr. 1A, H360Df Acute Tox. 4, H332 Acute Tox. 4, H302 STOT RE 2, H373 Aquatic Chronic 1, H410 (M=1) Aquatic Acute 1, H400 (M=1)

<b>4-amidino-N'-nitroso-1-tetrazene-1-carboximidohydrazide</b>	
<b>Registration number (REACH)</b>	---
<b>Index</b>	---
<b>EINECS, ELINCS, NLP</b>	203-659-4
<b>CAS</b>	109-27-3
<b>content %</b>	1-<2,5
<b>Classification according to Regulation (EC) 1272/2008 (CLP)</b>	Skin Irrit. 2, H315 Eye Irrit. 2, H319

For the text of the H-phrases and classification codes (GHS/CLP), see Section 16.

The substances named in this section are given with their actual, appropriate classification!

For substances that are listed in appendix VI, table 3.1/3.2 of the regulation (EC) no. 1272/2008 (CLP regulation) this means that all notes that may be given here for the named classification have been taken into account.

## SECTION 4: First aid measures

In case of direct contact with the ingredients:

### 4.1 Description of first aid measures

Assure the safety of the rescuer.

Never pour anything into the mouth of an unconscious person!

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## Inhalation

Remove person from danger area.

Supply person with fresh air and consult doctor according to symptoms.

If the person is unconscious, place in a stable side position and consult a doctor.

Respiratory arrest - Artificial respiration apparatus necessary.

Cortisone spray

## Skin contact

Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

Unsuitable cleaning product:

Solvent

Thinners

## Eye contact

Remove contact lenses.

Wash thoroughly for several minutes using copious water. Seek medical help if necessary.

## Ingestion

Rinse the mouth thoroughly with water.

Do not induce vomiting. Consult doctor immediately.

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

If applicable delayed symptoms and effects can be found in section 11 and the absorption route in section 4.1.

In certain cases, the symptoms of poisoning may only appear after an extended period / after several hours.

The following may occur:

Unconsciousness

Cyanosis

Vomiting

Disturbed heart rhythm

Headaches

Cramps

Circulatory collapse

Dizziness

visual disturbances

Nausea

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

Measures against circulatory shock, respiratory distress and seizures may be indicated.

If skin, lips or finger nails are discoloured, perform artificial respiration with oxygen.

In case of irritation of the lungs, perform first-aid with controlled-dosage aerosol dexamethasone.

## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

#### Suitable extinguishing media

Adapt to the nature and extent of fire.

Water jet spray/foam/CO2/dry extinguisher

#### Unsuitable extinguishing media

High volume water jet

### 5.2 Special hazards arising from the substance or mixture

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In case of fire the following can develop:

Oxides of carbon

Oxides of nitrogen

Lead oxide

Toxic gases

Danger of explosion

### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes.

Protective respirator with independent air supply.

According to size of fire

Full protection, if necessary.

Cool container at risk with water.

Dispose of contaminated extinction water according to official regulations.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Keep unprotected persons away.

Ensure sufficient supply of air.

Avoid contact with eyes or skin.

### 6.2 Environmental precautions

Prevent from entering drainage system.

Prevent surface and ground-water infiltration, as well as ground penetration.

Inform the competent authorities when water or canalisation has been infiltrated.

### 6.3 Methods and material for containment and cleaning up

Pick up mechanically and dispose of according to Section 13.

Avoid build up of dust.

Clean soiled bottles immediately.

Flush residue using copious water.

### 6.4 Reference to other sections

For personal protective equipment see Section 8 and for disposal instructions see Section 13.

## SECTION 7: Handling and storage

In addition to information given in this section, relevant information can also be found in section 8 and 6.1.

### 7.1 Precautions for safe handling

#### 7.1.1 General recommendations

Ensure good ventilation.

Do not breathe dust.

Avoid contact with eyes or skin.

Keep away from sources of ignition - Do not smoke.

Take precautions against electrostatic charges.

Use only explosion-protected tools.

Avoid shock and friction

Eating, drinking, smoking, as well as food-storage, is prohibited in work-room.

Observe directions on label and instructions for use.

Use working methods according to operating instructions.

#### 7.1.2 Notes on general hygiene measures at the workplace

General hygiene measures for the handling of chemicals are applicable.

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Wash hands before breaks and at end of work.  
 Keep away from food, drink and animal feedingstuffs.  
 Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep out of access to unauthorised individuals.  
 Not to be stored in gangways or stair wells.  
 Store product closed and only in original packing.  
 Keep away from combustible material.  
 Protect from direct sunlight and warming.  
 Only store at temperatures from 5°C to 25°C.  
 Store in a well-ventilated place.  
 Store in a dry place.  
 Store cool.

### 7.3 Specific end use(s)

No information available at present.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Materials are integrated into the product and should not lead to any exposure under normal handling conditions.

Chemical Name	Glycerol trinitrate		Content %: 25-<50
WEL-TWA: 0,01 ppm (0,095 mg/m3) (EU)	WEL-STEL: 0,02 ppm (0,19 mg/m3) (EU)	---	
Monitoring procedures: ---			
BMGV: 15 µmol/mol creatinine (total nitroglycols, urine, At end of the period of exposure) (HSE)	Other information: Sk (EU)		

Chemical Name	lead 2,4,6-trinitro-m-phenylene dioxide		Content %: 2,5-<10
WEL-TWA: ---	WEL-STEL: ---	---	
Monitoring procedures: ---			
BMGV: 70 µg Pb/100 ml blood (Lead and its ionic compounds, EU)	Other information: ---		

WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period) EH40. AGW = "Arbeitsplatzgrenzwert" (workplace limit value, Germany). (8) = Inhalable fraction (2017/164/EU). (9) = Respirable fraction (2017/164/EU). | WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period). (8) = Inhalable fraction (2017/164/EU). (9) = Respirable fraction (2017/164/EU). (10) = Short-term exposure limit value in relation to a reference period of 1 minute (2017/164/EU). | BMGV = Biological monitoring guidance value EH40. BGW = "Biologischer Grenzwert" (biological limit value, Germany) | Other information: Sen = Capable of causing occupational asthma. Sk = Can be absorbed through skin. Carc = Capable of causing cancer and/or heritable genetic damage.  
 \*\* = The exposure limit for this substance is repealed through the TRGS 900 (Germany) of January 2006 with the goal of revision.

### 8.2 Exposure controls

#### 8.2.1 Appropriate engineering controls

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Ensure good ventilation. This can be achieved by local suction or general air extraction.

If this is insufficient to maintain the concentration under the WEL or AGW values, suitable breathing protection should be worn.

Applies only if maximum permissible exposure values are listed here.

Suitable assessment methods for reviewing the effectiveness of protection measures adopted include metrological and non-metrological investigative techniques.

These are specified by e.g. EN 14042.

EN 14042 "Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents".

### 8.2.2 Individual protection measures, such as personal protective equipment

General hygiene measures for the handling of chemicals are applicable.

Wash hands before breaks and at end of work.

Keep away from food, drink and animal feedingstuffs.

Remove contaminated clothing and protective equipment before entering areas in which food is consumed.

Eye/face protection:

Tight fitting protective goggles with side protection (EN 166).

Skin protection - Hand protection:

With long-term contact:

Chemical resistant protective gloves (EN 374).

The breakthrough times determined in accordance with EN 374 Part 3 were not obtained under practical conditions.

The recommended maximum wearing time is 50% of breakthrough time.

Skin protection - Other:

Protective working garments (e.g. safety shoes EN ISO 20345, long-sleeved protective working garments).

Protective working garment, antistatic (EN1149)

Gehörschutz

Respiratory protection:

On dust formation:

If applicable, filter P2 (EN 143), code colour white

Observe wearing time limitations for respiratory protection equipment.

Thermal hazards:

Not applicable

Additional information on hand protection - No tests have been performed.

In the case of mixtures, the selection has been made according to the knowledge available and the information about the contents.

Selection of materials derived from glove manufacturer's indications.

Final selection of glove material must be made taking the breakthrough times, permeation rates and degradation into account.

Selection of a suitable glove depends not only on the material but also on other quality characteristics and varies from manufacturer to manufacturer.

In the case of mixtures, the resistance of glove materials cannot be predicted and must therefore be tested before use.

The exact breakthrough time of the glove material can be requested from the protective glove manufacturer and must be observed.

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### 8.2.3 Environmental exposure controls

No information available at present.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state:	Solid
Colour:	According to specification
Odour:	Odourless
Odour threshold:	Not determined
pH-value:	Not determined
Melting point/freezing point:	Not determined
Initial boiling point and boiling range:	Not determined
Flash point:	Not determined
Evaporation rate:	Not determined
Flammability (solid, gas):	Not determined
Lower explosive limit:	Not determined
Upper explosive limit:	Not determined
Vapour pressure:	Not determined
Vapour density (air = 1):	Not determined
Density:	>1 g/cm <sup>3</sup>
Bulk density:	Not determined
Solubility(ies):	Not determined
Water solubility:	Insoluble
Partition coefficient (n-octanol/water):	Not determined
Auto-ignition temperature:	170 °C
Decomposition temperature:	Not determined
Viscosity:	n.a.
Explosive properties:	Not determined
Oxidising properties:	Not determined

### 9.2 Other information

Miscibility:	Not determined
Fat solubility / solvent:	Not determined
Conductivity:	Not determined
Surface tension:	Not determined
Solvents content:	Not determined

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Heating may cause an explosion.

### 10.2 Chemical stability

Stable with proper storage and handling.

### 10.3 Possibility of hazardous reactions

Product is explosive.

### 10.4 Conditions to avoid

Strong heat

T > 170°C

Open flame, ignition sources



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Avoid shock and friction  
 Protect from direct sunlight.

### 10.5 Incompatible materials

Bases  
 Acids  
 Oxidizing agents  
 Sprengstoffe der Klasse A und B

### 10.6 Hazardous decomposition products

Oxides of carbon  
 Oxides of nitrogen  
 Lead oxide

## SECTION 11: Toxicological information

### 11.1 Information on toxicological effects

Possibly more information on health effects, see Section 2.1 (classification).

#### safety cartridges for use in Art.: 44513

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Acute toxicity, by oral route:						n.d.a.
Acute toxicity, by dermal route:						n.d.a.
Acute toxicity, by inhalation:						n.d.a.
Skin corrosion/irritation:						n.d.a.
Serious eye damage/irritation:						n.d.a.
Respiratory or skin sensitisation:						n.d.a.
Germ cell mutagenicity:						n.d.a.
Carcinogenicity:						n.d.a.
Reproductive toxicity:						n.d.a.
Specific target organ toxicity - single exposure (STOT-SE):						n.d.a.
Specific target organ toxicity - repeated exposure (STOT-RE):						n.d.a.
Aspiration hazard:						n.d.a.
Symptoms:						n.d.a.

#### Glycerol trinitrate

Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
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Symptoms:						breathing difficulties, drop in blood pressure, palpitations, headaches, ear noises, dizziness, nausea and vomiting., mental confusion
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lead 2,4,6-trinitro-m-phenylene dioxide						
Toxicity / effect	Endpoint	Value	Unit	Organism	Test method	Notes
Symptoms:						weight loss, stomach pain, muscle pains

## SECTION 12: Ecological information

Possibly more information on environmental effects, see Section 2.1 (classification).

safety cartridges for use in Art.: 44513							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:							n.d.a.
12.1. Toxicity to daphnia:							n.d.a.
12.1. Toxicity to algae:							n.d.a.
12.2. Persistence and degradability:							n.d.a.
12.3. Bioaccumulative potential:							n.d.a.
12.4. Mobility in soil:							n.d.a.
12.5. Results of PBT and vPvB assessment							n.d.a.
12.6. Other adverse effects:							n.d.a.

Glycerol trinitrate							
Toxicity / effect	Endpoint	Time	Value	Unit	Organism	Test method	Notes
12.1. Toxicity to fish:	LC50	96h	2,05	mg/l			

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12.1. Toxicity to daphnia:	EC50	48h	50	mg/l			
12.1. Toxicity to algae:	EC50	96h	0,4	mg/l			

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

For the substance / mixture / residual amounts

EC disposal code no.:

The waste codes are recommendations based on the scheduled use of this product.

Owing to the user's specific conditions for use and disposal, other waste codes may be allocated under certain circumstances. (2014/955/EU)

16 04 03 other waste explosives

Recommendation:

Sewage disposal shall be discouraged.

Pay attention to local and national official regulations.

Product residues should preferably be handed in to recognised reprocessors or approved incineration plants.

#### For contaminated packing material

Pay attention to local and national official regulations.

Recommendation:

Empty container completely.

Recycling

### SECTION 14: Transport information


#### General statements

14.1. UN number: 0014

#### Transport by road/by rail (ADR/RID)

14.2. UN proper shipping name:

UN 0014 CARTRIDGES FOR TOOLS, BLANK

14.3. Transport hazard class(es): 1.4 

14.4. Packing group: n.a.

Classification code: 1.4S

LQ: 5 kg


14.5. Environmental hazards: Not applicable

Tunnel restriction code: E

#### Transport by sea (IMDG-code)

14.2. UN proper shipping name:

CARTRIDGES FOR TOOLS, BLANK

14.3. Transport hazard class(es): 1.4 

14.4. Packing group: n.a.

EmS: F-B, S-X


Marine Pollutant: n.a.

14.5. Environmental hazards: Not applicable

#### Transport by air (IATA)

14.2. UN proper shipping name:

Cartridges for tools, blank

14.3. Transport hazard class(es): 1.4 

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14.4. Packing group: n.a.  
 14.5. Environmental hazards: Not applicable

#### 14.6. Special precautions for user

Persons employed in transporting dangerous goods must be trained.  
 All persons involved in transporting must observe safety regulations.  
 Precautions must be taken to prevent damage.

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

Freighted as packaged goods rather than in bulk, therefore not applicable.  
 Minimum amount regulations have not been taken into account.  
 Danger code and packing code on request.  
 Comply with special provisions.

### SECTION 15: Regulatory information

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

Observe restrictions:  
 Comply with national regulations/laws governing maternity protection and the protection of young people at work!  
 Regulation (EC) No 1907/2006, Annex XVII  
 lead 2,4,6-trinitro-m-phenylene dioxide  
 Comply with trade association/occupational health regulations.

Directive 2012/18/EU ("Seveso III"), Annex I, Part 1 - The following categories apply to this product (others may also need to be considered according to storage, handling etc.):

Hazard categories	Notes to Annex I	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Lower-tier requirements	Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of - Upper-tier requirements
P1b	8, 10	50	200

The Notes to Annex 1 of Directive 2012/18/EU, in particular those named in the tables here and notes 1-6, must be taken into account when assigning categories and qualifying quantities.

Directive 2010/75/EU (VOC): 0 %

Observe incident regulations.

Observe guidelines for storage of explosives, SprengV.

#### 15.2 Chemical safety assessment

A chemical safety assessment is not provided for mixtures.

### SECTION 16: Other information

Revised sections: 8  
 These details refer to the product as it is delivered.

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Employee instruction/training in handling hazardous materials is required.  
 Employee training in handling dangerous goods is required.

Classification and processes used to derive the classification of the mixture in accordance with the ordinance (EG) 1272/2008 (CLP):

Classification in accordance with regulation (EC) No. 1272/2008 (CLP)	Evaluation method used
Expl. Division 1.4, H204	Classification based on test data.

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the product and the constituents (specified in Section 2 and 3).

- H200 Unstable explosives.
- H360Df May damage the unborn child. Suspected of damaging fertility.
- H300 Fatal if swallowed.
- H302 Harmful if swallowed.
- H310 Fatal in contact with skin.
- H315 Causes skin irritation.
- H319 Causes serious eye irritation.
- H330 Fatal if inhaled.
- H332 Harmful if inhaled.
- H373 May cause damage to organs through prolonged or repeated exposure.
- H400 Very toxic to aquatic life.
- H410 Very toxic to aquatic life with long lasting effects.
- H411 Toxic to aquatic life with long lasting effects.

- Expl. — Explosive
- Acute Tox. — Acute toxicity - inhalation
- Acute Tox. — Acute toxicity - dermal
- Acute Tox. — Acute toxicity - oral
- STOT RE — Specific target organ toxicity - repeated exposure
- Aquatic Chronic — Hazardous to the aquatic environment - chronic
- Repr. — Reproductive toxicity
- Aquatic Acute — Hazardous to the aquatic environment - acute
- Skin Irrit. — Skin irritation
- Eye Irrit. — Eye irritation

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Replacing version dated / version: 07.03.2017 / 0003

Valid from: 28.06.2017

PDF print date: 03.07.2017

safety cartridges for use in

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### Any abbreviations and acronyms used in this document:

AC Article Categories

acc., acc. to according, according to

ACGIH American Conference of Governmental Industrial Hygienists

ADR Accord européen relatif au transport international des marchandises Dangereuses par Route (= European Agreement concerning the International Carriage of Dangerous Goods by Road)

AOEL Acceptable Operator Exposure Level

AOX Adsorbable organic halogen compounds

approx. approximately

Art., Art. no. Article number

ATE Acute Toxicity Estimate according to Regulation (EC) 1272/2008 (CLP)

BAM Bundesanstalt für Materialforschung und -prüfung (Federal Institute for Materials Research and Testing, Germany)

BAuA Bundesanstalt für Arbeitsschutz und Arbeitsmedizin (= Federal Institute for Occupational Health and Safety, Germany)

BCF Bioconcentration factor

BGV Berufsgenossenschaftliche Vorschrift (= Accident Prevention Regulation)

BHT Butylhydroxytoluol (= 2,6-Di-t-butyl-4-methyl-phenol)

BMGV Biological monitoring guidance value (EH40, UK)

BOD Biochemical oxygen demand

BSEF Bromine Science and Environmental Forum

bw body weight

CAS Chemical Abstracts Service

CEC Coordinating European Council for the Development of Performance Tests for Fuels, Lubricants and Other Fluids

CESIO Comité Européen des Agents de Surface et de leurs Intermédiaires Organiques

CIPAC Collaborative International Pesticides Analytical Council

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CLP Classification, Labelling and Packaging (REGULATION (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures)

CMR carcinogenic, mutagenic, reproductive toxic

COD Chemical oxygen demand

CTFA Cosmetic, Toiletry, and Fragrance Association

DMEL Derived Minimum Effect Level

DNEL Derived No Effect Level

DOC Dissolved organic carbon

DT50 Dwell Time - 50% reduction of start concentration

DVS Deutscher Verband für Schweißen und verwandte Verfahren e.V. (= German Association for Welding and Allied Processes)

dw dry weight

e.g. for example (abbreviation of Latin 'exempli gratia'), for instance

EC European Community

ECHA European Chemicals Agency

EEA European Economic Area

EEC European Economic Community

EINECS European Inventory of Existing Commercial Chemical Substances

ELINCS European List of Notified Chemical Substances

EN European Norms

EPA United States Environmental Protection Agency (United States of America)

ERC Environmental Release Categories

ES Exposure scenario

etc. et cetera

EU European Union

EWC European Waste Catalogue

Fax. Fax number

gen. general

GHS Globally Harmonized System of Classification and Labelling of Chemicals

GWP Global warming potential

HET-CAM Hen's Egg Test - Chorionallantoic Membrane

HGWP Halocarbon Global Warming Potential

IARC International Agency for Research on Cancer

IATA International Air Transport Association

IBC Intermediate Bulk Container

IBC (Code) International Bulk Chemical (Code)

IC Inhibitory concentration

IMDG-code International Maritime Code for Dangerous Goods

incl. including, inclusive

IUCLID International Uniform Chemical Information Database

LC lethal concentration

LC50 lethal concentration 50 percent kill

LCLo lowest published lethal concentration

LD Lethal Dose of a chemical

LD50 Lethal Dose, 50% kill

LDLo Lethal Dose Low

LOAEL Lowest Observed Adverse Effect Level

LOEC Lowest Observed Effect Concentration

LOEL Lowest Observed Effect Level

LQ Limited Quantities

MARPOL International Convention for the Prevention of Marine Pollution from Ships

n.a. not applicable

n.av. not available



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n.c. not checked

n.d.a. no data available

NIOSH National Institute of Occupational Safety and Health (United States of America)

NOAEC No Observed Adverse Effective Concentration

NOAEL No Observed Adverse Effect Level

NOEC No Observed Effect Concentration

NOEL No Observed Effect Level

ODP Ozone Depletion Potential

OECD Organisation for Economic Co-operation and Development

org. organic

PAH polycyclic aromatic hydrocarbon

PBT persistent, bioaccumulative and toxic

PC Chemical product category

PE Polyethylene

PNEC Predicted No Effect Concentration

POCP Photochemical ozone creation potential

ppm parts per million

PROC Process category

PTFE Polytetrafluorethylene

REACH Registration, Evaluation, Authorisation and Restriction of Chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals)

REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations without a CAS No. or other numerical identifier. List Numbers do not have any legal significance, rather they are purely technical identifiers for processing a submission via REACH-IT.

RID Règlement concernant le transport International ferroviaire de marchandises Dangereuses (= Regulation concerning the International Carriage of Dangerous Goods by Rail)

SADT Self-Accelerating Decomposition Temperature

SAR Structure Activity Relationship

SU Sector of use

SVHC Substances of Very High Concern

Tel. Telephone

ThOD Theoretical oxygen demand

TOC Total organic carbon

TRGS Technische Regeln für Gefahrstoffe (=Technical Regulations for Hazardous Substances)

UN RTDG United Nations Recommendations on the Transport of Dangerous Goods

VbF Verordnung über brennbare Flüssigkeiten (= Regulation for flammable liquids (Austria))

VOC Volatile organic compounds

vPvB very persistent and very bioaccumulative

WEL-TWA, WEL-STEL WEL-TWA = Workplace Exposure Limit - Long-term exposure limit (8-hour TWA (= time weighted average) reference period), WEL-STEL = Workplace Exposure Limit - Short-term exposure limit (15-minute reference period) (EH40, UK).

WHO World Health Organization

wwt wet weight

The statements made here should describe the product with regard to the necessary safety precautions - they are

not meant to guarantee definite characteristics - but they are based on our present up-to-date knowledge. No responsibility.