# SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1272/2008 (REACH) Annex II

| FALCETTO TURBO | | |
|---|---|---|
| **Publish Date** 24-November-2021 | **Version** 1 | **Product No** JTA/UK/171 |

## Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

**FALCETTO TURBO**

400g/l Flufenacet & 200g/l Diflufenican SC

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

**Recommended Use** Herbicide

**Uses advised against** No information available

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

**Supplier Address**

JT Agro Ltd
1 Bell Street, Maidenhead, Berkshire,
SL6 1BU, U.K.
Tel: +44 1628 421599 Fax: +44 1628 421623

For further information, please contact

**Email address** info@jtagro-cropthetics.com

### 1.4. Emergency telephone number

**Emergency information services / official advisory body:** National Chemical Emergency Centre (UK): Tel: 01865 407333 (24 hours)

**Telephone number of the company in case of emergencies:** Tel: +44 1628 421599

## Section 2: HAZARD IDENTIFICATION

### 2.1. Classification of the substance or mixture

**Classification according to Regulation (EC) No. 1272/2008 [CLP]**

| Hazard class | Hazard category | Hazard statement |
|---|---|---|
| Acute Tox. | 4 | H302 - Harmful if swallowed. |
| Skins Sens. | 1 | H317 - May cause an allergic skin reaction. |
| STOT RE | 2 | H373 - May cause damage to organs through prolonged or |

| | | |
|---|---|---|
| | | repeated exposure. |
| Aquatic Acute | 1 | H400 - Very toxic to aquatic life. |
| Aquatic Chronic | 1 | H410 - Very toxic to aquatic life with long lasting effects. |

## 2.2. Label elements

**Labeling according to Regulation (EC) No. 1272/2008 [CLP**

**Warning**

H302 – Harmful if swallowed. H317-May cause an allergic skin reaction. H373 – May cause damage to organs (nervous system) through prolonged or repeated exposure. H410 – Very toxic to aquatic life with long lasting effects

P280 – Wear protective gloves/protective clothing/eye protection/face protection
P309 + P311 – IF exposed or concerned: Call a POISON CENTER/doctor/ physician.
P501 – Dispose of contents/ container to an approved waste disposal plant.

EUH401 – To avoid risks to human health and the environment comply with the instructions for use.

SP 1 Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).

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

# Section 3: COMPOSITION/ INFORMATION ON INGREDIENTS

## 3.1. Mixtures

n.a.

## 3.2. Mixtures

| **Flufenacet (ISO)** | |
|---|---|
| **Registration number (REACH)** | -- |
| **Index** | 616-032-00-9 |
| **EINECS, ELINCS, NLP** | - |
| **CAS** | 142459-59-3 |
| **Content %** | 30-40 |

| | |
|---|---|
| **Classification according to Regulation (EC) 1272/2008 (CLP)** | Acute Tox. 4, H302 STOT RE 2, H3737 Skin Sens. 1, H317 Aquatic Acute 1, H400 (M=100) Aquatic Chronic 1, H410 |

| **Diflufenican** | |
|---|---|
| **Registration number (REACH)** | -- |
| **Index** | 616-032-00-9 |
| **EINECS, ELINCS, NLP** | - |
| **CAS** | 83164-33-4 |
| **Content %** | 10-20 |
| **Classification according to Regulation (E1272/2008 (CLP)** | Aquatic Chronic 3, H412 |

## Section 4: FIRST AID MEASURES

**4.1. Description of first aid measures**

Never pour anything into the mouth of an unconscious person!

**Inhalation**

Remove person from danger area.
Supply person with fresh air and consult doctor according to symptoms

**Skin Contact**

Dab away with polyethylene glycol 400
Remove polluted, soaked clothing immediately, wash thoroughly with plenty of water and soap, in case of irritation of the skin (flare), consult a doctor.

**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
Methemoglobin formulation Cyanosis

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

Symptomatic treatment
Sodium sulphate laxative (1 table spoon and 1 glass of water) with generous amounts of activated charcoal. For methemoglobinemia, 300 mg toluidine blue intravenously or 1 to 2 mg/kg methylene blue intravenously.

## Section 5: FIRE-FIGHTING MEASURES

**5.1. Extinguishing media**

**Suitable extinguishing media**
Water jet spray/foam/CO2/dry extinguisher

**Unsuitable extinguishing media**
Not known

**5.2. Special hazards arising from the substance or mixture**

In case of fire the following can develop:
Oxides of carbon
Oxides of Sulphur
Oxides of nitrogen
Hydrogen cyanide
Toxic gases

**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
Dispose of contaminated extinction water according to official regulations.

## Section 6: ACCIDENTAL RELEASE MEASURES

**6.1. Personal precautions, protective equipment and emergency procedures**

Keep non-essential personnel away.
Ensure sufficient supply of air.
Avoid contact with eyes or skin.
If applicable, caution – risk of slipping

**6.2. Environmental precautions**

If leakage occurs, dam up. Resolve leaks if this is possible without risk. Prevent surface and ground-water infiltration, as well as ground penetration. Prevent from entering drainage system. If accidental entry into drainage system occurs, inform responsible authorities.

**6.3. Methods and material for containment and cleaning up**

**Methods for cleaning up** Soak up with absorbent material (e.g. universal binding agent, sand, diatomaceous earth) and dispose of according to section 13. Fill the absorbent material into lockable containers. Clean soiled bottles immediately.

**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. Keep away from sources of ignition – Do not smoke. Avoid contact with eyes and skins. Separate storage of protective clothing. 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. Wash hands before breaks and at end of work. Keep away from food, drink and animal feeding stuffs. Remove contaminated clothing and protective equipment before entering areas in which food is consumed.
Suitable container: HDPE

**7.2. Conditions for safe storage, including any incompatibilities**

Keep out of access to unauthorized individuals. Store product closed and only in original packaging. Not to be stored in gangways or stairwells.
Protect from frost.
Store in a well-ventilated place.
Store in a dry place.
Suitable container:HDPE

**7.3. Specific end use(s)** No information available at present

## Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1. Control parameters**

| **Chemical Name** | **Glycerine** | **Control %** |
|---|---|---|
| WEL-TWA: 10 MG/M3 (mist) | WEL-STEL: --- | --- |
| Monitoring procedures: BMGV:--- | --- | 5.5 mg/m3 (TWA) Other Information |

**8.2. Exposure controls**

**8.2.1 Appropriate engineering controls**

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.

**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 feeding stuffs. 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:** Chemical resistant protective gloves (EN 374). Recommended Protective nitrile gloves (EN 374) Minimum layer thickness in mm: 0,4 Permeation time (penetration time) in minutes: >=480. The breakthrough times determined in accordance with EN374 Part 3 were not obtained under practical conditions. The recommended maximum wearing time is 50% of breakthrough time.

| | |
|---|---|
| | Protective hand cream recommended. |
| **Skin protection -Other:** | Protective working garments (e.g. safety shoes EN ISO 20345, long -sleeved working garments) |
| **Respiratory protection:** | Normal not necessary. |
| **Thermal Hazards:** | Not applicable |

Addition information on hand protection- No test has 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 the other quality characteristics and varies from manufacture to manufacture. In the case of mixtures, the resistance of glove materials cannot be predicated 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.

**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:** | Liquid Suspension |
| **Colour:** | White, Beige |
| **Odour** | Slightly, Characteristic |
| **Odour threshold:** | Not determined |
| **pH- value** | 4 – 6,5 (23˚C) |
| **Melting point/freezing point** | Not determined |
| **Initial boiling point and boiling range** | Not determined |
| **Flash point** | > 100˚C |
| **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, 24 g/cm3 (20˚C) |
| **Bulk density:** | n.a |
| **Solubility(ies):** | Not determined |
| **Water solubility:** | Dispersion |
| **Partition Coefficient n-octanol /water** | Not determined |
| **Auto -ignition temperature:** | 445 ˚C (ignition temperature) |
| **Decomposition temperature:** | Not determined |
| **Viscosity:** | 150-400 mPas (20˚C, (20/s) |
| **Viscosity:** | 60-200 mPas (20˚C, (20/s) |

**Explosive properties:** Product is not explosive. (regulation (EC) 440/2008 A.14. (EXPLOSIVE PROPERTIES)

**Oxidizing properties:** No

**9.2. Other information**

Further safety related physical-chemical data are not known.

## Section 10: STABILITY AND REACTIVITY

**10.1. Reactivity**

Not to be expected

**10.2. Chemical stability**

Stable with proper storage and handling.

**10.3. Possibility of hazardous reactions**

No dangerous reactions are known.

**10.4. Conditions to avoid**

See also section 7.
Strong heat

**10.5. Incompatible materials**

See also section 7
Avoid contact with strong alkalis.
Avoid contact with strong oxidizing agents.
Avoid contact with strong acids.

**10.6. Hazardous decomposition**

See also section 5.2

No decomposition when used as directed

## Section 11: TOXICOLOGICAL INFORMATION

**11.1. Information on toxicological effects**

| **FALCETTO TURBO** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity/effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Acute toxicity, by oral route: | LD50 | 500 – 2000 | mg/kg | Rat | | |

| | | | | | | |
|---|---|---|---|---|---|---|
| Acute toxicity, by dermal route: | LD50 | >4000 | mg/kg | Rat | | |
| Acute toxicity, by inhalation: | LC50 | >2,078 | Mg/1/4h | Rat | | |
| Skin corrosion/ irritation: | | | | Rabbit | | Not Irritant |
| Serious eye damage/ irritation: | | | | Rabbit | | Not Irritant |
| Respiratory or skin sensitization: | | | | Guinea Pig | OECD 406 (Skin Sensitization) | Yes (skin contact) |
| 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 single Exposure (STOT-RE): | | | | | | n.d.a. |
| Aspiration hazard: | | | | | | n.d.a. |
| Symptoms: | | | | | | n.d.a. |
| Other information: | | | | | | Classification according to calculation procedure**.** |

| **Flufenacet (ISO)** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity/effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Germ cell mutagenicity: | | | | | | Negative |
| Carcinogenicity: | | | | | | Negative |
| Reproductive toxicity: | | | | Rat | | Negative |

| **Diflufenican** | | | | | | |
|---|---|---|---|---|---|---|
| **Toxicity/effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Acute toxicity, by oral route: | LD50 | >2000 | mg/kg | Rat | | |
| Acute toxicity, by dermal route | LD50 | >2000 | mg/kg | Rat | | |
| Acute toxicity, by inhalation | LC50 | >4.94 | Mg/1/4h | Rat | | |
| **Glycerin** | | | | | | |
| **Toxicity/effect** | **Endpoint** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Acute toxicity, by oral route: | LD50 | >126000 | mg/kg | Rat | | |
| Acute toxicity, by oral route: | LD50 | >2000 | mg/kg | Rat | | |
| Acute toxicity, by oral route: | LD50 | >2000 | mg/kg | Rabbit | | |
| Acute toxicity, by oral route: | LD50 | >5000 | mg/kg | Rat | IUCLID Chem. Data Sheet (ESIS) | |
| Acute toxicity, by dermal route: | LD50 | >10000 | mg/kg | Rabbit | | |
| Acute toxicity, by dermal route: | | | | Rabbit | IUCLID Chem. Data Sheet (ESIS) | Not Irritant |
| Skin corrosion/ irritation: | | | | Rabbit | IUCLID Chem. Data Sheet (ESIS) | |
| Skin corrosion/ irritation: | | | | | OECD 405 (Acute Dermal Irritation/Corrosion) | Not Irritant |
| Serious eye damage/irritation: | | | | Rabbit | OECD 405 (Acute Dermal Irritation/Corrosion) | Not Irritant |
| Serious eye damage/irritation: | | | | | OECD 405 (Acute Dermal Irritation/Corrosion) | Not Irritant |
| Respiratory or skin sensations: | | | | | | Not Irritant |
| Respiratory or skin sensations: | | | | Guinea Pig | | Not Sensitizing |
| Germ cell mutagenicity: | | | | | OECD 471 (Bacterial Reverse Mutation Test) | Negative |
| Reproductive toxicity: | NOAEL | 2000 | mg/kg/d | | | Negative |
| Specific target organ toxicity repeated exposure (STOT-RE): | NOAEL | | mg/l | Rat | | 14d |
| Aspiration hazard: | | | | | | Negative |

| | | | | | | |
|---|---|---|---|---|---|---|
| Symptoms: | | | | | | Abdominal pain, drowsiness, diarrhea, vomiting, headaches mucous membrane irritation |

## Section 12: ECOLOGICAL INFORMATION

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

| **FALCETTO TURBO** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity/effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Toxicity to fish: | LC50 | 96h | 12,3 | mg/l | Oncorhynchus mykiss | | |
| Toxicity to daphnia: | LC50 | 48h | >100 | mg/l | Daphina magna | | |
| Toxicity to algae: | EC50 | 72h | 0.00663 | mg/l | Pseudokirchnerie ll1 subcapitata | | |
| Persistence and degradability: | | | | | | | n.d.a |
| Bioaccumulative potential: | | | | | | | n.d.a |
| Mobility in soil: | | | | | | | n.d.a |
| Results of PBT and vPvB assessment | | | | | | | n.d.a |
| Other adverse effects: | | | | | | | n.d.a |
| Other organisms: | EC50 | | 0.307 | mg/l | Lemna gibba | | |

| **Flufenacet (ISO)** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity/effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Toxicity to fish: | LC50 | 96h | 2,19 | mg/l | Lepomis macrochirus | | |
| Toxicity to daphnia: | | 48h | 30,9 | mg/l | Daphnia magna | | |
| Toxicity to algae: | | 72h | 0,0002-0,0004 | mg/l | Pseudokirchnerie lla subcapitata | | |

| **Diflufenican** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity/effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Toxicity to fish: | LC50 | 96h | >0,04 | mg/l | | | Does not conform with EU classification |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Toxicity to daphnia: | EC50 | 48h | 0,24 | mg/l | Daphina Magna | | Does not conform with EU classification |
| Toxicity to algae: | EC50 | 72h | 0,0002-0.0004 | mg/l | | | Does not conform with EU classification |
| Toxicity to birds: | LD50 | | >2150 | mg/k | Colin virginianus | | |
| Toxicity to birds: | LD50 | | >4000 | mg/k | Anas platyrhnnchos | | |

| **Glycerine** | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Toxicity/effect** | **Endpoint** | **Time** | **Value** | **Unit** | **Organism** | **Test method** | **Notes** |
| Toxicity to fish: | LC50 | 24h | >5000 | mg/l | Carassius auratus | | References |
| Toxicity to fish: | LC50 | 96h | >5000 | mg/l | Carassius auratus | | |
| Toxicity to fish: | LC50 | 96h | >10000 | mg/l | Leuciscus idus | | |
| Toxicity to daphnia: | EC50 | 24h | >10000 | mg/l | Daphnia magna | | |
| Toxicity to daphnia: | EC50 | 24h | >10000 | mg/l | Daphnia magna | IUCLID Chem, Data sheet (ESIS) | |
| Toxicity to daphnia: | EC5 | 72h | 3200 | mg/l | | | References |
| Toxicity to algae: | EC50 | | 29000 | mg/l | Chlorella vulgaris | | |
| Toxicity to algae: | IC5 | 7d | >1000 | mg/l | Scenedesmus quadricornutum | | |
| Toxicity to algae: | IC5 | 7d | >1000 | mg/l | Scenedesmus capricornutum | | References |
| Persistence and degradability: | | 14d | 63 | % | | OECD 301 C (Ready Biodegradability-Modified MITI Test (1)) | |
| Persistence and degradability: | | 14d | 63 | % | | OECD 301 C (Ready Biodegradability-Modified MITI Test (1)) | |
| Bioaccumulative potential: | Log Pow | | -1,76 | | | | |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Bioaccumulative potential: | Log Pow | | -2,6 | | | | A notable biological accumulation potential is not to be expected (LogPow 1-3) |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Results of PBT and vPvB assessment | | | | | | | n.a |
| Toxicty to bacteria | EC5 | 16h | >10000 | mg/l | Pseudomonas putida | | |
| Other information: | BOD5 | | 0,87 | g/g | | | |
| Other information: | COD | | 1,16 | g/g | | | |

## 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 users specific conditions for use and disposal, other waste codes may be allocated under curtails circumstances. (2014/955/EU)
02 01 08 agrochemical waste containing hazardous substances
07 04 99 wastes not otherwise specified
20 01 19 Pesticides
Recommendation:
Sewage disposal shall be discouraged.
Pay attention to local and national official regulations.
E.g. suitable incineration plant
E.g. dispose at suitable refuse site.

**For Contaminated packaging**

Pay attention to local and national office regulations.
Empty container completely.
Uncontaminated packaging can be recycled.
Dispose of packaging that cannot be cleaned in the same manner as the substance.

## Section 14: TRANSPORT CONSIDERATIONS

**General statement**

UN number 3082

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

UN Proper Shipping Name:
UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUFENACET (ISO), DIFLUFENCIAN)
Transport hazard class(es) 9
Packing group: III
Classification code: M6
LQ (ADR 2015): 5
Environmental Hazards: Environmentally hazardous

Tunnel Restriction Code: E

**Transport by Sea (IMDG-code)**

UN 3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (FLUFENACET (ISO), DIFLUFENCIAN)
Transport hazard class(es) 9
Packing group: III
EmS: F-A, S-F
Marine Pollutant: Yes
Environmental hazards class(es): Environmentally hazardous

**Transport by air (IATA)**

UN proper shipping name:
Environmentally hazardous substance, liquid, (FLUFENACET (ISO), DIFLUFENCIAN)
Transport hazard class(es) 9
Packing group III
Environmental hazards Environmentally hazardous

**Special precautions for user**
Persona employed in transporting dangerous goods must be trained.
All persons involved in transporting must observe safety regulations.
Precautions must be taken to prevent damage.

**Transport in bulk according to Annex ii of MARPOL and IBC Code**
Freighted as packaged goods rather than in bulk, therefore not applicable.
Minimum amount regulations have not been taken into account.
Danger code with packaging 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**

For classification and labelling see Section 2.
Observe restrictions:
Comply with trade association/occupational health regulations.
Observe youth employment law (German regulations).
Observe law on protection of expectant mothers (German regulations).
Observe plant protection medium law.

**15.2. Chemical Safety Assessment**

A chemical safety assessment is not provided for mixtures.

## Section 16: OTHER INFORMATION

These details refer to the product as it is delivered.
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 (EG0 1272/2008 (CLP):**

| Classification in accordance with regulation (EC) No. 1272/200/ (CLP) | Evaluation method used |
|---|---|
| Acute Tox. 4, H302 | Classification based on test data. |
| Skin Sens. 1, H317 | Classification according to calculation procedure.<br>Classification based on test date. |
| STOT RE 2, H372 | Classification according to calculation procedure. |
| Aquatic Acute 1, H400 | Classification based on test date. |

| | |
|---|---|
| Aquatic Chronic1, H410 | Classification based on test date. |

The following phrases represent the posted Hazard Class and Risk Category Code (GHS/CLP) of the products and the constituents (specified in Section 2 and 3).
H302 Harmful if swallowed.
H317 May cause an allergic skin reaction.
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.
H412 Harmful to aquatic life with long lasting effects.

Acute Tox. - Acute toxicity – oral
Skin Sens. – Skin Sensitization
STOT RE -- Specific target organ toxicity- repeated exposure
Aquatic Acute —Hazardous to aquatic environment – acute
Aquatic Chronic—Hazardous to aquatic environment—chronic

### Any abbreviations and acronyms used in the the document

AC Article Categories
Acc., acc to according, according to
ACGIH American Conference of Governmental Industrial Hygienists
ADR Accord European relative au transport international des merchandises Dangereuses par Route (= European Agreement concerning the international Carriage of Dangerous Goods by Road)
AOEL Acceptable Operator Exposure Level
AOX Absorbable organic halogen compounds
Approx. approximately
Art., Art no Article number
ATE Acute Toxicity Estimate according to Regulation (EC)1272/2008 (CLP)
BAM Bundesanstalt fur Materialforschung und-prufing (Federal Institute for Materials Research and Testing, Germany)
BAuA Bundesanstalt fur Arbeitsschutz und Arbeitsmedzin (= 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-menthyl-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 od Performance Test for Fuels, Lubricants and Other Fluids
CESIO Committee European des Agents de Surface et de leurs Intermediaries Organiques
CIPAC Collaborative International Pesticides Analytical Council
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 fur SchweiBen 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 Chemical 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 Catalouge
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
LCLC Lowest published lethal concentration
LD Lethal Dose of a chemical
LD50 Lethal Dose 50% kill
LDLo Lethal Dose Low
LOAELL 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.
n.d.a not checked
NIOSH National Institute of Occupational Safety and Health (United State of America)
NOAEC No Observed Adverse Effective Concentration
NOAEL No Observed Adverse Effect Level
ODP Ozone Depletion Potential
OECD Organization for Economic Co-operation and Development
org. organic
PAH polycyclic aromatic hydrocarbon
PBT persistent, bioaccumulative and toxic
PC Chemical product category
PE Polyethylene
PNEC Predicated No Effect Concentration
POCP Process category
ppm parts per million
PROC Process Category
PTFE Polytetrafluorethylene
REACH Registration, Evaluation, Authorization and Restrictions of chemicals (REGULATION (EC) No 1907/2006 concerning the Registration, Evaluation, Authorization and Restrictions of chemicals
REACH-IT List-No. 9xx-xxx-x No. is automatically assigned, e.g. to pre-registrations with out 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 Regalement concernant le transport International ferroviaire de marchandises Dangerous (=Regulation concerning the international Carriage of Dangerous Goods by Rail)
SADT Self-Accelerating Decomposition Temperature
SAR Structure Activity Relationship
SU Sector of use
SVHC Substance of very high concern
Tel. Telephone
ThOD Theoretical oxygen demand
TOC Total organic carbon
TRGS Technishe Regeln fur Gefahrstoffe (=Technical Regulations for Hazardous Substance)
UN RTDG United Nations Recommendations on the Transport of Dangerous Goods
VbF Verordunng uber brennbare Flussigkeiten (= Regulation for flammable liquids (Austria))
WEL-TWA, WEL-STEL WEL-TWA WEL-TWA= Workplace Exposure Limit-Long-term exposure limit (8-hour TWA (=time weightedaverage) reference period), WEL-STEL= Workplace Exposure Limit- Short-term exposure limit (15-minute referenceperiod) (EH40, UK).
WHO World Health Organization
Wwt wet weight

**Disclaimer**

**The information provided in this Material 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.**

## End of Safety Data Sheet