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

**Product identifier**

ACMOS 100-2450

**Relevant identified uses of the substance or mixture and uses advised against**

**Relevant identified uses**

Release spray

**Uses advised against**

The product is for industrial and professional use only - no consumer product.

**Details of the supplier of the safety data sheet**

**Manufacturer**

| | | |
|---|---|---|
| Company name: | ACMOS CHEMIE KG | |
| Street: | Industriestrasse 49 | |
| Place: | D-28199 Bremen | |
| Post-office box: | 10 10 69<br>D-28010 Bremen | |
| Telephone: | +49 (0)421-5189-0 | Telefax: +49 (0)421-511415 |
| e-mail: | acmos@acmos.com | |
| Contact person: | Mr. Dryhaus | |
| Internet: | www.acmos.com | |
| Responsible Department: | Laboratory (Division : Occupational- / Product security) - See under section 16 | |

**Supplier**

| | | |
|---|---|---|
| Company name: | ACMOS CHEMIE KG | |
| Street: | Industriestrasse 49 | |
| Place: | D-28199 Bremen | |
| Post-office box: | 10 10 69<br>D-28010 Bremen | |
| Telephone: | +49 (0)421-5189-0 | Telefax: +49 (0)421-511415 |
| e-mail: | acmos@acmos.com | |
| Contact person: | Mr. Dryhaus | |
| Internet: | www.acmos.com | |
| Responsible Department: | Laboratory (Division : Occupational- / Product security) - See under section 16 | |

**Emergency telephone:** +49 (0)551-19240 (Emergency information service / official advisory body: Giftinformationszentrum Nord, Universität Göttingen, 24 h service)

## SECTION 2: Hazards identification

**Classification of the substance or mixture**

**Classification according to Directive 67/548/EEC or Directive 1999/45/EC**

Indications of danger : Extremely flammable, Irritant, Dangerous for the environment
R-phrases:
Extremely flammable.
Irritating to skin.
Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
Vapours may cause drowsiness and dizziness.

This preparation is classified as hazardous according to the new EC-preparation directive 1999/45/EC.

**Label elements**

**Danger symbols:** F+ - Extremely flammable; Xi - Irritant; N - Dangerous for the environment

F+ - Extremely flammable

Xi - Irritant

N - Dangerous for the environment

**R phrases**

| | |
|---|---|
| 12 | Extremely flammable. |
| 38 | Irritating to skin. |
| 51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| 67 | Vapours may cause drowsiness and dizziness. |

**S phrases**

| | |
|---|---|
| 23 | Do not breathe spray . |
| 24 | Avoid contact with skin. |
| 51 | Use only in well-ventilated areas. |
| 61 | Avoid release to the environment. Refer to special instructions / Safety data sheets. |

**Special labelling of certain mixtures**

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50 °C. Do not pierce or burn, even after use.

Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking. Keep out of the reach of children.

**Additional advice on labelling**

The product is classified and labelled in accordance with the CHIPS Regulations 1994.

Preparation Directive 1999/45/EC.

**Other hazards**

Adverse physicochemical effect(s) :

See section 9 for physical and chemical properties.

Adverse human health effect(s) and symptom(s) :

See section 11 for toxicological information.

Adverse environmental effect(s) :

See section 12 for environmental information.

Other adverse Hazard(s) :

Rapid evaporation of the liquid may cause frostbite.

Results of PBT-/vPvB-assesment : See under section 12.

## SECTION 3: Composition/information on ingredients

**Mixtures**

**Chemical characterization**

Aerosole : Active ingredients with propane/butane as propellant

**Hazardous components**

| EC No. | Chemical name | Quantity |
|---|---|---|
| CAS No. | Classification | |
| Index No. | GHS classification | |
| REACH No. | | |
| 927-510-4 | hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | 50 - 55 % |
| 64742-49-0 | F, Xn, Xi, N R11-38-51-53-65-67 | |
| | Flam. Liq. 2, Skin Irrit. 2, STOT SE 3, Asp. Tox. 1, Aquatic Chronic 2; H225 H304 H315 H336 H411 | |
| 01-2119475515-33 | | |
| 203-448-7 | butane | 25 - 30 % |
| 106-97-8 | F+ R12 | |
| 601-004-00-0 | Flam. Gas 1; H220 | |
| 200-827-9 | propane | 5 - 10 % |
| 74-98-6 | F+ R12 | |
| 601-003-00-5 | Flam. Gas 1; H220 | |

**Further Information**

Subdivision of relevant R-, H-, EUH-Phrases in full text (number and wording) see under section 16.

## SECTION 4: First aid measures

### Description of first aid measures

**General information**

Take off all contaminated clothing immediately. Wash contaminated clothing before re-use.
If victim has stopped breathing: Artificial respiration and/or oxygen may be necessary.
If victim is unconscious but breathing: Victim to lie down in the recovery position, cover and keep him warm.
If victim is conscious: Move out of dangerous area.
If a person vomits when lying on his back, place him in the recovery position.
Consult a physician if necessary Show this safety data sheet to the doctor in attendance.

Protection of first-aiders :
wear personal protective equipment See under section 8.

Notes to physician :
Aspiration may cause pulmonary oedema and pneumonitis. Symptoms may be delayed.

**After inhalation**

Move to fresh air in case of accidental inhalation of vapours. In case of shortness of breath, give oxygen.
Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness, cessation of breathing. If symptoms persist, call a physician.

**After contact with skin**

Wash off with soap and water.
Preventive skin protection.
Wash frost-bitten areas with plenty of water. Do not remove clothing.

**After contact with eyes**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
If eye irritation persists, consult a specialist.

**After ingestion**

Do not induce vomiting. Consult a physician.
Risk of product entering the lungs on vomiting after ingestion.
Never give anything by mouth to an unconscious person.

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

See under section 11.

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

Treat symptomatically.

In case of ingestion, the stomach should be emptied by gastric lavage under qualified medical supervision.
Later control for pneumonia and lung oedema.

A suitable eye rinse equipment shall be provided, if required.
Use eye rinse liquid with room temperature, if possible.

## SECTION 5: Firefighting measures

**Extinguishing media**

**Suitable extinguishing media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
water spray, sand, foam, dry chemical, carbon dioxide ($CO_2$)

**Extinguishing media which must not be used for safety reasons**

Do not use a solid water stream as it may scatter and spread fire.

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

Fire will produce dense black smoke containing hazardous combustion products.
Under conditions giving incomplete combustion, hazardous gases produced may consist of : Carbon monoxide, carbon dioxide ($CO_2$), hydrocarbons, smoke
In principle, fire gasses of organic materials have to be classified as toxic to the respiratory system.

**Advice for firefighters**

In the event of fire, wear self-contained breathing apparatus.
In the event of fire and/or explosion do not breathe fumes.
Move to fresh air in case of accidental inhalation of fumes from overheating or combustion.

**Additional information**

Usual measures of preventive and averting fire protection.
In the event of fire, cool tanks with water spray.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

## SECTION 6: Accidental release measures

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

Avoid contact with skin and eyes. Try to avoid breathing vapours or spray mist.
Remove all sources of ignition. Do not smoke.
Keep people away from and upwind of spill/leak.
Prevent further leakage or spillage if safe to do so.
Ensure adequate ventilation.

For non-emergency personnel :
Walk out of the danger zone and notify trained personnel.
If necessary, wear personal protective equipment. Never enter into a personal risk. See under section 8.
Keep the factory emergency plan and the information chain.

For emergency responders :
The personal protective equipment must be adapted to the situation.

**Environmental precautions**

Do not flush into surface water or sanitary sewer system.

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

Clean-up methods - small spillage : Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Take up mechanically and collect in suitable container for disposal.

**Reference to other sections**

Further information see under section 8, 13.

## SECTION 7: Handling and storage

**Precautions for safe handling**

**Advice on safe handling**

Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Use only in well-ventilated areas. When using, do not eat, drink or smoke.

**Advice on protection against fire and explosion**

Measures according to German "Explosion rules" required :
Prevention measures regarding formation of explosible atmosphere (restriction and supervision of concentration, inertisation, airtightness, ventilation, warning device, etc.).
Prevention measures regarding ignition of explosible atmosphere (zone graduation, removing of ignition sources, explosion-proof electrical installation, earthing, etc.).
Constructive measures for restriction of effects regarding explosions (resistance to pressure of explosions, discharge of pressure of explosions, suppression of explosions, etc.).

Keep product and empty container away from heat and sources of ignition. Do not smoke.
Vapours may form explosive mixture with air.
Vapours are heavier than air and may spread along floors.
Electrical equipment should be protected to the appropriate standard.
Fire-fighting equipment on the basis of class B.

**Further information on handling**

Reference on types of contact requiring special precautionary measures :
For restriction of emission on volatile organic compounds (VOC) the solvent vapours should be supplied to an exhaust air purification facility (filter, gas washer, incineration).

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

**Requirements for storage rooms and vessels**

Keep containers tightly closed in a cool, well-ventilated place.
The valid water and zoning ordinances must be observed.
Design solvent resistant and tight floor.

**Advice on storage compatibility**

Stable under recommended storage conditions.
Incompatible with oxidising agents.

**Further information on storage conditions**

Indoor stockability in closed unopened original containers : 18 months.
Store at room temperature in the original container.
Keep at temperatures between +10 and +30 °C.
Do not store outside. Avoid heating and direct sunlight.
See also instuctions on the label.

**Specific end use(s)**

Possibilities for substitution and references to less hazardous products :
This product was designed for a special application purpose and optimized appropriately.
In case of questions regarding product and application, please contact our field service in line with customer service or our technical sales department.

Specific regulations of branch industries :
Hazardous substance information systems of professional associations.

## SECTION 8: Exposure controls/personal protection

## Control parameters

### Exposure limits (EH40)

| CAS No. | Chemical name | ml/m³ | mg/m³ | F/ml | Category | Origin |
|---|---|---|---|---|---|---|
| 106-97-8 | Butane | 600 | 1450 | | TWA (8 h) | WEL |
| | | 750 | 1810 | | STEL (15 min) | WEL |
| 142-82-5 | n-Heptane | 500 | 2085 | | TWA (8 h) | WEL |
| | | - | - | | STEL (15 min) | WEL |

**Additional advice on limit values**

Recommended monitoring and observation processes : None known.

Control banding for chemicals according to the ILO CHEMICAL CONTROL TOOLKIT (ICCT) :
ICCT-Guidelines and - Control Guidance Sheets :
http://www.ilo.org/legacy/english/protection/safework/ctrl_banding/toolkit/main_guide.pdf
Consider appropriate model solutions according to good engineering practices on designing the working process, if available.

## Exposure controls

**Appropriate engineering controls**

Design of appropriate work processes and engineering controls and the use of adequate materials (model solutions as certified working methods, working appliance according to the state of the art, models of working times).

Preliminary concentration measurements :
Suitable detector tubes for measuring the current concentration in the air at the workplace : DRÄGER test tubes - short-term tubes (Internet : http://www.gasmesstechnik.de)

References for design of technical equipment : See under section 7.

Execution of collective protection measures at source and appropriate organisational measures (local exhaust ventilation, ventilation by technical means, general ventilation, measures on averting a danger at breakdowns / at emergencies / after accidents, first-aid-measures, manner related measures : operating instruction / instruction of employees, occupational medicine health precaution).
Provide appropriate exhaust ventilation at machinery. Where reasonably practicable this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapour below the OEL, suitable respiratory protection must be worn.

Execution of individual and personnel protection measures (personal protective equipment - PPE).

**Individual protection measures, such as personal protective equipment**

When using, do not eat, drink or smoke. General industrial hygiene practice.
Handle in accordance with good industrial hygiene and safety practice.

**Respiratory protection**

Breath protection at insufficient ventilation or prolonged exposition . Observe limited carrying time. The use of filter equipment requires a minimum oxygen content of 17 Vol-% in the surrounding atmosphere and that the maximum permitted gas concentration - normally 0,5 Vol-% - is not exceeded.

Half mask or quarter mask with combination filter A1P1/A2P2 for gases, vapors and particles.
Filtering half mask or quarter mask with combination filter FFA1 P1/FFA2P2 for gases, vapors and particles. (EN 405)

Gas filtrating Half-face mask FFA (EN 405)
Model 4251 (FFA1P1 - 1000 ml/m3) / 4255 (FFA2P2SL - 5000 ml/m3) - 3M, Internet : http://www.3m.com
Half-face mask or Quarter-face mask with gas filter (EN 140)
Filter type 6051 (A1 - 1000 ml/m3) / 6055 (A2 - 5000 ml/m3) - 3M, Internet : http://www.3m.com
Full-face mask with gas filter (EN 136)
Gas filter type : A, Indication colour : brown

**Skin protection**

Hand protection :
Use only chemical protective gloves with CE-status of category III in accordance to EN 374. Due to missing tests no recommendation to the protective glove material for this product / the preparation / the chemical mixture can be given. Since the product represents a preparation of several ingredients, the resistance isn't predictable. It must therefore be checked before use. Selection of glove material by observation of permeation (break through times, permeation rates) and degradation (swelling). Owning to diversity of types refer to specifications and use instructions of the glove manufacturer. Inquire material specific rupture times at protective glove manufacturer.

Manufacturer :
Kächele-Cama Latex GmbH, Industriepark Röhn, Am Kreuzacker 9, D-36124 Eichenzell, c/o Tony O'Donovan, 2 Wyndham Road, New Waltham, Grimsby, N. E. Lincs, GB-DN36 4WA
Telephone : +44-(0)1472232883, Telefax : +44-(0)1472232883, Internet : http://www.kcl.de, E-Mail : kcl-uk@kcl.de

Decrease wearing protection gloves to an inevitable degree to avoid skin rash. Technical and organizational protective actions have to be preferred. Wear under gloves made of cotton as possible. Change preventive gloves once by hour or use special skin-protective preparations for protective gloves carrier, e.g. physioderm® proGlove
Before removing gloves clean them with soap and water. Dispose preventive gloves after defect or expiry of wearing time. Check protective gloves to proper condition before usage.

Preventive skin protection. : Draw up skin protection programme.
Before starting work, apply solvent-resistant skincare preparations,
e.g. sansibal® / sansibon®, dualin®
Wash hands before breaks and on finishing work,
e.g. ecosan®, topscrub® soft / topscrub® extra / topscrub® nature
After cleansing, apply greasy skincare products,
e.g. physioderm® creme, cura soft® / cUrea soft®

Manufacturer :
Peter Greven Physioderm GmbH, Procter-&-Gamble-Str. 26, D-53881 Euskirchen
Telephone : +49-(0)2251 77617-61, Telefax : +49-(0)2251 77617-44, Internet : http://www.physioderm.de, E-Mail : info@physioderm.de

Other :
Skin protection :
lightweight protective clothing (EN 340),
antistatic boots (EN 344)

**Eye / face protection**

safety glasses with side-shields (EN 166)

**Thermal hazards**

No thermal hazards during use of this product.

**Environmental exposure controls**

Should not be released into the environment.
Further information see under section 6.

## SECTION 9: Physical and chemical properties

**Information on basic physical and chemical properties**

| | | |
|---|---|---|
| Physical state: | aerosol | |
| Colour: | light yellow | |
| Odour: | characteristic | |
| | | **Test method** |
| pH-Value: | Not applicable | |
| **Changes in the physical state** | | |
| Melting point: | not determined | |
| Boiling point: | > -42 °C | Literary reference |
| Sublimation point: | Not applicable | |
| Softening point: | not determined | |
| Flash point: | > -97 °C | Literary reference |
| **Flammability** | | Literary reference |
| Gas: | extremely flammable | |

**Explosive properties**

In use, may form flammable/explosive vapour-air mixture. The statements for steam pressure, ignition point and explosion levels apply to the solvent / solvent mixture.

| | | |
|---|---|---|
| Lower explosion limits: | 0,7 vol. % | Literary reference |
| Upper explosion limits: | 7,0 vol. % | Literary reference |
| Ignition temperature: | > 200 °C | Literary reference |

**Oxidizing properties**

Not applicable

| | | |
|---|---|---|
| Vapour pressure: (at 20 °C) | < 3000 hPa | Literary reference |
| Vapour pressure: (at 50 °C) | < 7000 hPa | Literary reference |
| Density (at 20 °C): | 0,66 g/cm³ | Calculation |
| Water solubility: (at 20 °C) | < 0,1 g/L | Literary reference |
| Solubility in other solvents: | miscible with most organic solvents | |
| Partition coefficient: | Not applicable (Preparation) | |
| Viscosity / dynamic: | Not applicable | |
| Viscosity / kinematic: | Not applicable | |
| Flow time: | Not applicable | |
| Vapour density: (at 25 °C) | > 2.0 (Air=1) | Literary reference |
| Evaporation rate: | not determined | |
| Solvent separation test: | Not applicable | |

**Other information**

| | |
|---|---|
| Solid content: | not determined |

Gas group (94/9/EC) : IIB (maximum experimental safe gap >= 0,5 mm ... <= 0,9 mm)
Temperature class (94/9/EC) : T3 (T > 200 °C ... <= 300 °C)

Solvent content = 54 w/w. Propellant content = 35 w/w.

Odor threshold (butane) : 500 ppm (Literary reference).

## SECTION 10: Stability and reactivity

**Reactivity**

No decomposition if stored and applied as directed.

**Chemical stability**

Stable at normal conditions

**Possibility of hazardous reactions**

Exothermic reaction : See under section 10.5.

**Conditions to avoid**

Heat, flames and sparks.
Further information see under section 7.

**Incompatible materials**

oxidising agents

**Hazardous decomposition products**

No decomposition if stored and applied as directed.
Under fire conditions: See under section 5.

## SECTION 11: Toxicological information

**Information on toxicological effects**

**Toxicocinetics, metabolism and distribution**

No toxical dates available. Not proofed preparation.
The product was classified according to the conventionally method (based on the calculation procedure of the new EC-preparation directive 1999/45/EC).

Information on likely routes of exposure /
Symptoms related to the physical, chemical and toxicological characteristics :

After ingestion :
Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.
Risk of product entering the lungs on vomiting after ingestion.
Aspiration may cause pulmonary oedema and pneumonitis.
Based on available data, the classification criteria are not met.

After inhalation :
Inhalation of aerosols may cause irritation to mucous membranes.
Inhalation of vapours in high concentration can cause narcotic effects and metabolic acidosis .
Symptoms of overexposure are dizziness, headache, tiredness, nausea, unconsciousness, cessation of breathing.

After skin contact :
Irritating to skin. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin resulting in non-allergic contact dermatitis and absorption through the skin. Solvents may degrease the skin. Rapid evaporation of the liquid may cause frostbite.

After eye contact :
Contact with eyes may cause irritation.
High concentration of vapours may cause irritation to eyes and respiratory system and produce narcotic effects .

Delayed and immediate effects as well as chronic effects from short and long-term exposure :
Not relevant / no data available

Interactive effects :
Not relevant / no data available

Absence of specific data :
No data is available on the product itself. Description of possible hazardous to health effects is based on experience and/or toxicological characteristics of several components.
Based on manufacturer datas of the main components the acute toxixity, the skin irritation, the mucous membrane irritation and the mutagenic potential of the preparation were evaluated. However, some datas are not complete regarding particular main components. Nevertheless according to the experience of the manufacturer there are no other hazards expected then those which are already mentioned on the label.

Mixture versus substance information :
Not relevant / no data available

**Acute toxicity**
The following informations are derived from the properties of the individual components.
LD50/oral/rat = > 2000 mg/kg
LD50/dermal/rabbit = > 2000 mg/kg
LC50/inhalation/4h/rat = > 20 mg/l

| CAS No. | Chemical name | | | | |
|---|---|---|---|---|---|
| | Exposure routes | Method | Dose | Species | h |
| 64742-49-0 | hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | | | | |
| | Acute oral toxicity | LD50 | > 5840 mg/kg | rat | |
| | Acute dermal toxicity | LD50 | > 2920 mg/kg | rat | |
| | Acute inhalation toxicity | LC50 | 23,3 mg/l | rat | 4 |
| 106-97-8 | butane | | | | |
| | Acute inhalation toxicity | LC50 | 658 ppm | rat | 4 |

**Irritation and corrosivity**
Irritating to skin.

**Sensitizing effects**
Based on available data, the classification criteria are not met.

**Severe effects after repeated or prolonged exposure**
Subacute to chronical toxicity :
Based on available data, the classification criteria are not met.

**Carcinogenic/mutagenic/toxic effects for reproduction**
Based on available data, the classification criteria are not met.

**Other information**
no data available

## SECTION 12: Ecological information

**Toxicity**
No ecotoxical dates available. Not proofed preparation.
The product was classified according to the conventionally method (based on the calculation procedure of the new EC-preparation directive 1999/45/EC).

Aquatic toxicity (Fish toxicity, Algae toxicity, Daphnia toxicity) :
The following informations are derived from the properties of the individual components.
LC50/96h/guppy = 1 mg/l < LC50 < 10 mg/l
EC50/72h/algae = 1 mg/l < EC50 < 10 mg/l

EC50/48h/daphnia = 1 mg/l < EC50 < 10 mg/l

Terrestric toxicity (Bird toxicity, Beneficial insect, Rainworm toxicity) : no data available
Plant toxicity : no data available
Behaviour in waste water treatment plants : no data available

| CAS No. | Chemical name | | | | |
|---|---|---|---|---|---|
| | Aquatic toxicity | Method | Dose | Species | h |
| 64742-49-0 | hydrocarbons, C7, n-alkanes, isoalkanes, cyclics | | | | |
| | Acute fish toxicity | LC50 | > 13,4 mg/l | Oncorhynchus mykiss | 96 |
| | Acute algae toxicity | ErC50 | 10-30 mg/l | Pseudokirchneriella subcapitata | 72 |
| | Acute crustacea toxicity | EC50 | 3 mg/l | Daphnia magna | 48 |

**Persistence and degradability**

Abbiotic degradation (Hydrolysis, Photolysis) : no data available
Physicochemical elimination (Oxidation, Hydrolysis) : no data available
Photochemical elimination (Photooxidation) : no data available
Biodegradation : no data available

**Bioaccumulative potential**

Partition coefficient n-octanol /water (log Pow) : Not applicable (Preparation)
Bioconcentration factor (BCF) : Not applicable (Preparation)

**Partition coefficient n-octanol/water**

| CAS No. | Chemical name | Log Pow |
|---|---|---|
| 106-97-8 | butane | 2,89 |

**Mobility in soil**

Surface tension : Not applicable
Transport soil-water (Adsorption coefficient) : The product is insoluble and floats on water.
Transport water-air (volatility rate, Henry-constant) : The product evaporates readily.
Transport soil-air (volatility rate) : The product evaporates readily.

This product contains one or more hydrocarbon UVCB's. Standard tests for this endpoint are intended for single substances and are not appropriate for this complex substance.

**Results of PBT and vPvB assessment**

no data available

**Other adverse effects**

Ozone depletion potential (ODP) : no data available
Photochemical ozone building potential (OBP) : no data available
Global warming potential (GWP) : no data available

Product does not contain any organic halogens. (AOX)

## SECTION 13: Disposal considerations

**Waste treatment methods**

**Advice on disposal**

Disposal according to offical regulations. Do not flush into surface water or sanitary sewer system. Do not dispose of waste into sewer. May not be disposed or deposited together with domestic garbage. Pack product waste or close and label uncleaned empty packages in respect to the local and official regulations and supply to an appropriate way of disposal.
The relation of waste-codes according to EWC has to be realized by branch and process. The waste producer is resposible for correct coding and designation of his wastes. For small amounts (< 20 kg/L) contact next special waste counter or a mobile service for harmful substances. Before discharge in public drains (e.g. residues of washing- and

rinsing liquids) please observe the relevant regulations. In case of further questions please contact your waste- or environmental representative or the responsible authority.
List of proposed waste codes / waste designations in accordance with EWC :

**Waste disposal number of waste from residues/unused products**

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing dangerous substances
Classified as hazardous waste.

**Waste disposal number of used product**

160504 WASTES NOT OTHERWISE SPECIFIED IN THE LIST; gases in pressure containers and discarded chemicals; gases in pressure containers (including halons) containing dangerous substances
Classified as hazardous waste.

**Waste disposal number of contaminated packaging**

150111 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); metallic packaging containing a dangerous solid porous matrix (for example asbestos), including empty pressure containers
Classified as hazardous waste.

**Contaminated packaging**

Offer empty spray cans to an established disposal company.

## SECTION 14: Transport information

**Land transport (ADR/RID)**

| | |
|---|---|
| **UN number:** | UN1950 |
| **UN proper shipping name:** | AEROSOLS |
| **Transport hazard class(es):** | 2 |
| **Packing group:** | --- |
| Hazard label: | 2.1 |

| | |
|---|---|
| Hazard-no.: | 23 |
| Tunnel restriction code: | D |

**Other applicable information (land transport)**

Maximum permissible total quantity per unit of carriage according to subsection 1.1.3.6 ADR/RID : 333 kg.
Factor out of category of carriage (= 2) to calculate the quantity per unit of carriage : 3.
Limited quantities according to chapter 3.4 ADR/RID : liquids not more than 1 litre(s) per inner packaging and not more than 30 kg gross per package (LQ 2 - ADR 2009).

Classification code : 5F
Special provision(s) : 190, 327, 344, 625
Provision(s), multilateral agreement(s) : Not applicable
Tunnel restriction code : D

Marking : UN 1950 AEROSOLE, [LIMITED QUANTITIES : ---]

**Marine transport**

| | |
|---|---|
| **UN number:** | UN1950 |
| **UN proper shipping name:** | AEROSOLS (Naphtha (Petroleum), hydrotreated, light) |
| **Transport hazard class(es):** | 2.1 |
| **Packing group:** | --- |

Hazard label: 2.1

Marine pollutant: P
EmS: F-D, S-U

**Other applicable information (marine transport)**
Limited quantity according to chapter 3.4 IMDG-Code : liquids not more than 1 litre(s) per inner packaging and not more than 30 kg gross per package.

Special provision(s) : 63, 190, 277, 327, 959
Exception(s) : Not applicable

Marking : UN 1950 AEROSOLS, [LIMITED QUANTITIES : --- (Amdt. 35-10)]

**Air transport**

| | |
|---|---|
| **UN/ID number:** | UN1950 |
| **UN proper shipping name:** | AEROSOLS, FLAMMABLE |
| **Transport hazard class(es):** | 2.1 |
| **Packing group:** | --- |
| Hazard label: | 2.1 |

| | |
|---|---|
| IATA-packing instructions - Passenger: | 203/Y203 |
| IATA-max. quantity - Passenger: | 75/30 kg |
| IATA-packing instructions - Cargo: | 203 |
| IATA-max. quantity - Cargo: | 150 kg |

**Other applicable information (air transport)**
The state variations in chapter 2.9.2 and the operator variations in chapter 2.9.4 for shipping of dangerous goods in limited quantities according to chapter 2.8 of the valid ICAO/ IATA Dangerous Goods Regulations have to be observed.

Special provision(s) : A145, A167
ERG Kodex : 10L

Marking : UN 1950 AEROSOLS, flammable

The rulings for dangerous goods by air mail according to chapter 2.4 of the valid ICAO/ IATA Dangerous Goods Regulations and the conventions of the Universal Postal Union (UPU) as well as the clauses of the relevant National Postal Administation have to be observed. Airmail : prohibited.

**Environmental hazards**

Dangerous for the environment: yes

**Special precautions for user**
Further information see under section 6, 7, 8.

**Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**
No bulk transport in accordance with IBC code.
It is sold exclusively in traffic legally authorized and appropriate packaging.

**Other applicable information**

Postal, express and courier services :
Postal service (national) :
Refer to your National Postal Administation.
Express freight / special delivery :
Refer to your National Postal Administation.
Courier service (national) :
The general conditions of business of the particular courier service have to be observed.

## SECTION 15: Regulatory information

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

**EU regulatory information**

| | |
|---|---|
| 1999/13/EC (VOC): | Content of volatile organic compounds (VOC) = 89 % w/w.<br>VOC-value (25 °C) = 587 g/L. |

**Additional information**

Informations on Regulation (EC) No. 1272/2008 - Annex VI, Part 1 :
Note H is valid : The classification and label shown for this substance applies to the dangerous property(ies) indicated by the risk phrase(s) in combination with the category(ies) of danger shown. Manufacturers, importers and downstream users of this substance shall be obliged to carry out an investigation to make themselves aware of the relevant and accessible data which exists for all other properties to classify and label the substance (Self classification of ingredients with not listed properties).
Note P is valid : The classification as a carcinogen or mutagen need not apply if it can be shown that the substance contains less than 0,1 % w/w benzene (EINECS No 200-753-7) (< 1 mg/kg - DIN 51405, ASTM D 4367).

Regulation (EC) No 2037/2000 - Substances that deplete the ozone layer : Not applicable
Regulation (EC) No 648/2004 and No 907/2006 - Detergents : Not applicable
Regulation (EC) No 850/2004 - Persistent organic pollutants : Not applicable
Regulation (EC) No 689/2008 - Export and import of dangerous chemicals : Not applicable
Regulation (EC) No 552/2009 - Restriction of chemicals (REACH) as regards annex XVII : Not applicable

Authorisation of Chemicals (REACH) as regards Annex XIV : Not applicable

Directive 2004/42/EC - Use of organic solvents in certain paints and lacquers : Not applicable
Directive 96/82/EC - Control of major accident hazards involving dangerous substances (Seveso II), as last amended by Directive 2003/105/EC :
Annex I, Part 1 (including substances listed) :
Liquefied extremely flammable gases (including LPG) and natural gas (column 1).
Quantities : > 10.000 kg (column 2) /> 50.000 kg (column 3).

EC-Chemical inventories : All ingredients are listed in EINECS / ELINCS or excepted from listing.

For the described substance or substances contained in the mixture described to date no chemical safety assessments (CSA) are available.

**National regulatory information**

| | |
|---|---|
| Employment restrictions: | Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing. |
| Water contaminating class (D): | 2 - water contaminating |

**Additional information**

International chemical inventories (Registration status on substances) : no data available

European product inventories (Registration status on preparations) :
Istituto Superiore di Sanità / Archivio Preparati Pericolosi - ISS (http://www.preparatipericolosi.iss.it/iss/index.phtml) :

This product was registered.
Kemikalieinspektionen / Produktregistret / Swedish Chemicals Inspectorate - KemI (http://apps.kemi.se/nclass/default.asp) :
This product was not registered.
Schweizerische Eidgenossenschaft - Bundesamt für Gesundheit - BAG (http://www.bag.admin.ch) / Informationssystem für gefährliche und umweltrelevante Stoffe - IGS (http://igs.naz.ch/index.html) :
This product was registered.

## SECTION 16: Other information

**Changes**
Safety data sheet was completely revised. This version replaces all former issues.

Changes made in this revision see section : 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16.

Disclaimer :
The information is based on present level of our knowledge. It does not, however, give assurances of product properties and establishes no contract legal rights. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release The receiver of our product is singulary responsible for adhering to existing laws and regulations. All descriptions are approximate values, they are not specified for construction of specifications. This safety data sheet does not represent any operating instruction according to national chemical regulations. It may be used for creation, but must not replace it. The employer is not relieved from his duties. All technical information to occupational protection are directed predominately to experts first (safety engineers, occupational medicines).

**Abbreviations and acronyms**
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
CAS: Chemical Abstracts Service.
DNEL: Derived No-Effect Level.
EC: European community.
EINECS: European Inventory of Existing Commercial Chemical Substances.
ELINCS: European List of Notified Chemical Substances.
EN: European standard.
FDA: US-Food and Drug Administration.
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.
IATA-DGR: International Air Transport Association Dangerous Goods Regulations.
IBC-Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code).
IC50 / ErC50: Inhibitory concentration, 50 percent.
ICAO-TI: International Cicil Aviation Organization Technical Instruction.
IMDG-Code: International Maritime Dangerous Goods Code.
ISO: A standard of International Standards Organisation.
LC50: Lethal concentration, 50 percent.
LD50: Lethal Dose, 50 percent.
log Kow (Pow): octanol-water partition coefficient.
MARPOL: Maritime Pollution Convention (Convention for the Prevention of Pollution from Ships).
OECD: Organisation for Economic Co-operation and Development.
PBT: Persistent, bioaccumulabe and toxic.
PNEC: Predicted No-Effect Concentration.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
UN: United Nations.
vPvB: Very persistent and very bioaccumulable.

**Full text of R-phrases referred to under sections 2 and 3**

| | |
|---|---|
| 11 | Highly flammable. |
| 12 | Extremely flammable. |
| 38 | Irritating to skin. |

| | |
|---|---|
| 51 | Toxic to aquatic organisms. |
| 51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| 53 | May cause long-term adverse effects in the aquatic environment. |
| 65 | Harmful: may cause lung damage if swallowed. |
| 67 | Vapours may cause drowsiness and dizziness. |

**Full text of H-Statements referred to under sections 2 and 3**

| | |
|---|---|
| H220 | Extremely flammable gas. |
| H225 | Highly flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H336 | May cause drowsiness or dizziness. |
| H411 | Toxic to aquatic life with long lasting effects. |

**Further Information**

Full text of all R-phrases which are referred to in section 2 and 3 of this safety data sheet - see previous list. These (this) R-phrases/R-phrases apply/applies to the substance(s) of content, however, it does not necessarily show the classification of the product.

Training references :
Yearly briefing and instruction of employees by means of operating instructions according to article 8 of EC-directive 98/24/EC.

Recommended restriction of application :
For more reference to application see separate product information. Please refer to our internet website for more information.

Sources of most important data used for creation of the data sheet :
The classification corresponds to current EC-lists, but is completed by statements of technical literature and company data. Other public accessible sources :
Regulation (EC) No. 1907/2006 (REACH) in the valid version in each case
Regulation (EC) No. 1272/2008 (CLP) in the valid version in each case
Substance Directive 67/548/EEC in the valid version in each case
Preparation Directive 1999/45/EC in the valid version in each case
European Agency for Safety and Health at Work - national air treshold values from european member states - EH 40 (http://osha.europa.eu/good_practice/topics/dangerous_substances/oel/members.stm)
Transport regulations according to ADR, IMDG-Code and IATA-DGR in the valid versions in each case
European Chemical Substances Information System - ESIS (http://ecb.jrc.ec.europa.eu/esis)
MERCK Chemical Databases - MERCK Chemicals (http://www.merck-chemicals.com)

Further information and practical guides on the internet :
European Chemicals Agency - ECHA (http://ec.europa.eu/echa)
The access to European Union law - EUR-Lex (http://eur-lex.europa.eu)
Control of Substances Hazardous to Health Regulations - COSHH (http://www.coshh-essentials.org.uk/Home.asp)
Pollution Prevention and Control Act and Pollution Prevention and Control Regulations
Health and Safety Executive - HSE - Leaflets for Chemicals (http://www.hse.gov.uk/pubns/chindex.htm)

Classification of mixtures and used evaluation methods in accordance with Regulation (EC) No 1272/2008 (CLP) :
The transition period according to CLP-Regulation (Article 61) has not been expired yet.

Inquiry office : Laboratory (Division : Occupational- /Product security)
Contact person : Mr. Dryhaus (Telephone : +49-421-5189-0, Telefax : +49-421-5189-871)
Office hours : Mo - Th from 7.30 - 16.15 h and Fr from 7.30 - 13.30 h. Out of office hours no call diversion.