



# Safety Data Sheet

according to 29 CFR 1910.1200(g)

**ACMOS 35-9063**

Print date: 23.04.2015

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## 1. Identification

### Product identifier

ACMOS 35-9063

### 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  
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 phone number:

+49 (0)551-19240 (Emergency information service / official advisory body:  
Giftinformationszentrum Nord, Universität Göttingen, 24 h from mo. - su.)  
Language(s) of Telephone Service: D, GB

#### **Supplier**

Company name: ACMOS Inc.  
Street: 1407 York Road, Suite 305  
Place: USA-MD 21093 Lutherville  
Telephone: 001-410-296-5994      Telefax: 001-410-296-5998  
e-mail: acmosinc@acmosinc.com  
Contact person: Mr. Reinhard E. Zuber      Telephone: 001-410-736-9922  
(mobile)  
e-mail: reinhard@acmosinc.com  
Internet: www.acmosinc.com

### Emergency phone number:

1-800-424-9300 (CHEMTREC - Day or Night Within the USA and Canada)  
Language(s) of Telephone Service: GB

## 2. Hazard(s) identification

### Classification of the chemical

Hazard categories:  
Flammable liquid: Flam. Liq. 4  
Aspiration hazard: Asp. Tox. 1  
Hazard Statements:  
Combustible liquid  
May be fatal if swallowed and enters airways

### Label elements

Signal word: Danger  
Pictograms: health hazard



### **Hazard statements**

Combustible liquid  
May be fatal if swallowed and enters airways

### **Precautionary statements**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
Wear protective gloves/protective clothing/eye protection.  
If swallowed: Immediately call a poison center/doctor.  
Do NOT induce vomiting.  
In case of fire: Use Water mist/Extinguishing powder/Foam/Carbon dioxide (CO2) to extinguish.

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**Additional advice on labelling**

Labelling according to the revised Hazard Communication Standard (HCS 2012) according to 29 CFR 1910.1200(f)

**Hazards not otherwise classified**

Adverse physicochemical effects:

See section 9 for physical and chemical properties.

This material is combustible, but will not ignite readily.

The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.

Vapours of flammable solvents can accumulate in the gas phase of closed container, especially during heat treatment.

Therefore keep away from fire and sources of ignition.

This material can accumulate static charge by flow or agitation and can be ignited by static discharge.

The product will be applied by spraying.

In use, may form flammable/explosive vapour-air mixture.

Adverse human health effects and symptoms:

See section 11 for toxicological information.

Adverse environmental effects:

See section 12 for environmental information.

Other adverse effects:

Special danger of slipping by leaking/spilling product.

Results of PBT-/vPvB-assessment:

See under section 12.5 - Results of PBT and vPvB assessment.

**3. Composition/information on ingredients****Mixtures****Chemical characterization**

Dispersion of waxes in isoparaffines

**Hazardous components**

CAS No	Components	Quantity
90622-57-4	hydrocarbons, C11-C12, isoalkanes, <2% aromatics	37.68 %
64741-65-7	hydrocarbons, C11-C12, isoalkanes, <2% aromatics	28.26 %
90622-58-5	hydrocarbons, C11-C13, isoalkanes, <2% aromatics	18.84 %
90622-58-5	hydrocarbons, C11-C14, isoalkanes, cyclics, <2% aromatics	9.42 %

**4. First-aid measures****Description of first aid measures****General information**

Remove affected person from the danger area and lay down.

Take off immediately all contaminated clothing and wash it before reuse.

Put victim at rest, cover with a blanket and keep warm.

Do not leave affected person unattended.

If a person vomits when lying on his back, place him in the recovery position.

If breathing is irregular or stopped, administer artificial respiration.

If unconscious place in recovery position and seek medical advice.

Never give anything by mouth to an unconscious person or a person with cramps.

In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

Self-protection of the first aider:

Wear personal protection equipment (refer to section 8).

First Aid.

Notes for the doctor:

Aspiration hazard

Risk of product entering the lungs on vomiting after ingestion.

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Aspiration may cause pulmonary oedema and pneumonitis.

Symptoms may develop several hours following exposure; medical observation therefore necessary for at least 48 hours.

**After inhalation**

Remove victim out of the danger area.

Provide fresh air.

In the case of lung irritation: Primary treatment using corticoide spray, eg. Auxiloson spray, Pulmicort-dosage-spray. (Auxiloson and Pulmicort are registered trademarks). Call a physician immediately.

Consult a doctor immediately in the case of inhaling spray mist and show him packing or label.

**After contact with skin**

Wash immediately with:

Water and soap

Rub greasy ointment into the skin.

Do not wash with:

Solvents/Thinner

In case of skin irritation, consult a physician.

**After contact with eyes**

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

Remove contact lenses, if present and easy to do. Continue rinsing.

Protect uninjured eye.

**After ingestion**

Do NOT induce vomiting.

Give nothing to eat or drink.

Observe risk of aspiration if vomiting occurs.

Never give anything by mouth to an unconscious person or a person with cramps.

Call a physician immediately.

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

The following symptoms may occur:

Cough

Dyspnoea

Cyanosis (blue coloured blood)

Pulmonary oedema

Pneumonia

Acidosis

Central nervous system depression

Headache

Nausea

Drowsiness

Dizziness

Inebriation

Unconsciousness

**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.

Regulation of the blood circulation, possible shock treatment.

Where appropriate artificial ventilation.

Subsequent observance for pneumonia and lung oedema.

**5. Fire-fighting measures****Extinguishing media****Suitable extinguishing media**

Water mist

Extinguishing powder (ABC-powder)

Foam

Carbon dioxide (CO<sub>2</sub>)

Fire class (DIN EN 2): B (Fires of liquids or liquid turning substances).

**Unsuitable extinguishing media**

Full water jet

Water spray jet

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**Specific hazards arising from the chemical**

In principle, fire gasses of organic materials have to be classified as toxic to the respiratory system.  
Burning produces heavy smoke.

Hazardous combustion products:

Carbon monoxide.  
carbon dioxide (CO<sub>2</sub>)  
Hydrocarbons  
Nitrogen oxides (NO<sub>x</sub>)  
Pyrolysis products, toxic

**Special protective equipment and precautions for fire-fighters**

Usual measures of preventive and averting fire protection.  
Co-ordinate fire-fighting measures to the fire surroundings.  
Do not inhale explosion and combustion gasses.  
Move to fresh air in case of accidental inhalation of fumes from overheating or combustion.  
Beware of reignition.  
Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen.  
Move undamaged containers from immediate hazard area if it can be done safely.  
Stop and contain spill/release if it can be done safely. If this cannot be done, allow fire to burn under control.  
Use water spray jet to protect personnel and to cool endangered containers.  
Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.  
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

Special protective equipment for firefighters:

Wear a self-contained breathing apparatus and chemical protective clothing.  
DIN-/EN-Norms: EN 469  
Firefighting protective clothing.

**6. Accidental release measures****Personal precautions, protective equipment and emergency procedures**

Avoid contact with skin, eyes and clothes.  
Do not breathe vapour/aerosol.  
In fine dispersion/spraying/misting: / In case of warning:  
Remove all sources of ignition.  
Prevent further leakage or spillage if safe to do so.  
Remove persons to safety.  
Be aware that gasses can spread at ground level (heavier than air) and pay attention to the wind direction.  
Provide adequate ventilation.  
Special danger of slipping by leaking/spilling product.

For non-emergency personnel:

Use personal protection equipment.  
Walk out of the danger zone and notify trained personnel.  
Emergency procedures:  
Keep the factory emergency plan and the information chain.

For emergency responders:

Use personal protection equipment.  
The personal protective equipment must be adapted to the situation.  
Suitable material:  
See under section 8.2 - Personal protection equipment.

**Environmental precautions**

Do not allow to enter into surface water or drains.  
Do not allow to enter into soil/subsoil.  
Ensure waste is collected and contained.  
Suppress gasses/vapours/mists with water spray jet.  
In case of gas escape or of entry into waterways, soil or drains, inform the responsible authorities.

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

For containment:  
Make sure spills can be contained, e.g. in sump pallets or kerbed areas.  
Prevent spread over a wide area (e.g. by containment or oil barriers).

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Remove from the water surface (e.g. skimming, sucking).  
Cover drains.

For cleaning up:

Clean-up methods - large spillage:

Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents).

Shovel into suitable container for disposal.

Local authorities should be advised if significant spillages cannot be contained.

Clean-up methods - small spillage:

Clear spills immediately.

Wipe up with absorbent material (eg. cloth, fleece).

Collect in closed and suitable containers for disposal.

Clear contaminated areas thoroughly.

Recommended cleansing agent:

Clean with detergents. Avoid solvent cleaners.

Retain contaminated washing water and dispose it.

Ensure all waste water is collected and treated via a waste water treatment plant.

Ventilate affected area.

Suitable material for taking up:

Sand

Kieselguhr

Universal binder

Absorbing material, organic

Unsuitable material for taking up:

None known

**Reference to other sections**

Personal protection equipment: see section 8

Disposal: see section 13

**7. Handling and storage****Precautions for safe handling****Advice on safe handling**

Measures to prevent aerosol and dust generation:

It is recommended to design all work processes always so that the following is excluded:

Inhalation of vapours or spray/mists

Eye contact

Skin contact

Technical ventilation of workplace

Vapours are heavier than air.

Provide room air exhaust at ground level.

During filling, metering and sampling should be used if possible:

Splashproof grounded devices

Devices with local exhaust

Use only in a exhaust booth with integrated air filter.

Use in ventilated spray booths only.

Ensure that fresh air is supplied to the breathing zone of the operator and exhaust air is removed in his back!

Re-circulation of exhaust air is not recommended.

Always close containers tightly after the removal of product.

**Advice on protection against fire and explosion**

Measures to prevent fire:

The product is: Combustible

The formation of combustible vapours is possible at temperatures above: +45 °C (Flash point - 15 °C)

Vapours can form explosive mixtures with air.

Spray mist may be flammable at temperatures below the flash point.

Provide earthing of containers, equipment, pumps and ventilation facilities.

Use explosion-proof machinery, apparatus, ventilation facilities, tools etc.

Use only non-sparking tools.

Take precautionary measures against static discharges.

Only use the material in places where open light, fire and other flammable sources can be kept away.

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Keep away from sources of heat (e.g. hot surfaces), sparks and open flames.

Usual measures for fire prevention.

Fire-fighting equipment on the basis of class B.

Never use pressure to empty container.

Wear anti-static footwear and clothing

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.).

**Further information on handling**

Environmental precautions:

Shafts and sewers must be protected from entry of the product.

Transfer wash-downs in sealed containers.

Provide for retaining containers, eg. floor pan without outflow.

For restriction of emission on volatile organic compounds (VOC) the solvent vapours should be supplied to exhaust air purification facilities (filter, gas washer, incineration).

Advices on general occupational hygiene:

Wear personal protection equipment (refer to section 8).

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500.

General industrial hygiene practice.

Handle in accordance with good industrial hygiene and safety practice.

Working places should be designed to allow cleaning at any time.

Floors, walls and other surfaces in the hazard area must be cleaned regularly.

Clean spray booth and exhaust hood completely with every product change.

When using do not eat, drink, smoke, sniff.

Thorough skin-cleansing after handling the product.

Used working clothes should not be worn outside the work area.

**Conditions for safe storage, including any incompatibilities****Requirements for storage rooms and vessels**

Suitable floor material:

Floors should be impervious, resistant to liquids and easy to clean.

Protect against:

Heat

Cold

Recommended storage temperature: +10 ... +30 °C

Keep away from:

Food and feedingstuffs

Packaging materials:

Suitable container/equipment material:

Keep/Store only in original container.

Unsuitable container/equipment material:

See under section 8.2 - Hand protection.

**Advice on storage compatibility**

Do not store together with:

Storage class:

1 (Explosive hazardous substances)

2 A (Gases)

5.1 B (Highly oxidising substances)

6.2 (Infectious substances)

7 (Radioactive substances)

**Further information on storage conditions**

Technical measures and storage conditions:

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The valid water and zoning ordinances must be observed.  
Heating causes rise in pressure with risk of bursting.  
Keep away from sources of ignition. - No smoking.  
Keep in a cool, well-ventilated place.  
Keep container tightly closed.  
Protect containers against damage.  
Ensure adequate ventilation of the storage area.  
Store small packages in a suitable, robust cabinet.  
Do not store outside.  
See also instructions on the label.

### 8. Exposure controls/personal protection

#### Control parameters

##### **Additional advice on limit values**

National Institute for Occupational Safety and Health - NIOSH (<http://cdc.gov/niosh/pel88/pelstart.html>) / Occupational Safety and Health Administration - Department of Labour ([http://osha.gov/pls/oshaweb/owasrch.search\\_form?p\\_doc\\_type=SATNDARSp\\_toc\\_level=0](http://osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=SATNDARSp_toc_level=0))  
Source of law:

##### Recommended monitoring procedures:

Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents (BS EN 14042):

Room air monitoring

Test tube

##### Preliminary concentration measurements:

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

DRÄGER test tubes - Short-term tubes - Petroleum hydrocarbons 10 / a (n-octane, measuring range : 10 - 300 ppm, response time : 60 sec) (<http://www.gasmesstechnik.de>)

DRÄGER test tubes - Short-term tubes - Petroleum hydrocarbons 100 / a (n-octane, measuring range : 100 - 2500 ppm, response time : 30 sec) (<http://www.gasmesstechnik.de>)

##### Exposure limits at intended use:

##### DNEL-/PNEC-values:

There are no exposure scenarios attached in the Appendix of this Safety Data Sheet.

##### Risk management measures according to used control banding approach:

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](http://www.ilo.org/legacy/english/protection/safework/ctrl_banding/toolkit/main_guide.pdf))

##### Used model:

Consider appropriate model solutions according to good engineering practices while designing the work process if available.

#### Exposure controls



#### **Appropriate engineering controls**

Substance/mixture related measures to prevent exposure during identified uses:

Technical measures to prevent exposure:

Design of appropriate work processes and engineering controls and the use of adequate materials (physical cut-off of man and machine, model solutions as certified working methods, working appliance according to the state of the art, optimisation of process / spray robots, working appliance for prevention of skin contact, models of working times).



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Organisational measures to prevent exposure:

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).

Structural measures to prevent exposure:

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

If technical exhaust or ventilation measures are not possible or insufficient, respiratory protection must be worn. Technical measures and the application of suitable work processes have priority over personal protection equipment.

References for design of technical equipment:

See under section 7.1 - Precautions for safe handling.

Summary of the risk management measures for exposure scenario:

Use only the following product amount per time unit:

No information available.

Minimum room-width and room-height for handling/application:

No information available.

Minimum room ventilation rate for handling/application (air changes per hour):

No information available.

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

#### Eye/face protection

Suitable eye protection:

Eye glasses with side protection ()

Recommended eye protection articles:

UVEX I-VO / UVEX I-3 / UVEX SUPER OTG

Or comparable articles from other companies.

#### Hand protection

Skin protection:

Preventive skin protection.:

Draw up skin protection programme.

Before starting work, apply solvent-resistant skincare preparations.

e.g. sansibal® / sansibon®, dualin® (PETER GREVEN PHYSIODERM)

Wash hands before breaks and after work.

e.g. ecosan®, topscrub® soft / topscrub® extra / topscrub® nature (PETER GREVEN PHYSIODERM)

After cleaning apply high-fat content skin care cream.

e.g. physioderm® creme, cura soft® / cUrea soft (PETER GREVEN PHYSIODERM)

Apply skin care products after work.

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits.

The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances.

Decrease wearing protection gloves to an inevitable degree to avoid skin rash.

Technical and organizational protective actions have to be preferred.

Breakthrough times and swelling properties of the material must be taken into consideration.

Check leak tightness/impermeability prior to use.

Wear cotton undermitten if possible.

Change preventive gloves once by hour or use special skin-protective preparations for protective gloves carrier,

e.g. physioderm® proGlove (PETER GREVEN PHYSIODERM)

Take recovery periods for skin regeneration.

Do not wear gloves near rotary machines and tools.

Dispose preventive gloves after defect or expiry of wearing time. Replace when worn.

In the case of wanting to use the gloves again, clean them before taking off and air them well.

Wearing time with permanent contact:

Suitable gloves type:

Gloves with long cuffs

Recommended glove articles:

Suitable materials at long term, direct contact (Recommended: Preventive index 6, accordingly > 480 min. permeation)



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time):

Nitrile rubber / NBR (KCL-CAMATRIL VELOURS® - Art. No. 730) - Layer thickness : 0,4 mm

Fluorine rubber / FKM / Viton (KCL-VITOJECT® - Art. No. 890) - Layer thickness : 0,7 mm

Or comparable articles from other companies.

Unsuitable material:

Butyl caoutchouc (butyl rubber)

NR (natural rubber, natural latex)

Wearing time with occasional contact (splashes):

Suitable gloves type:

Disposable gloves

Recommended glove articles:

Suitable materials at short term contact or splash (Recommended: Preventive index 3, accordingly &gt; 60 min.

permeation time):

Disposable gloves of special nitrile rubber / NBR (KCL-DERMATRIL® P - Art. No. 743) - Layer thickness : 0,2 mm

Or comparable articles from other companies.

The statements are based on self-tests, literary reference and information of glove manufacturers or have been derived from similar substances by analogy.

Source: CHEMIKALIEN-MANAGER - KCL-software for hand protection.

It has to be noticed, that daily time of use of chemical protective gloves may be quite shorter in practice because of many factors of influence (e.g. thermal and mechanical stress as well as special conditions on the floor) than the permeation time determined in accordance to EN 374.

The respective permeation time doubles/halves at about 1,5 times larger/lower layer thickness.

Declared permeation times are not carried out under practical conditions. Therefore a maximum wearing time up to 50 % of breakthrough time is recommended.

They relate to the pure solvent as mean component.

Barrier creams are not substitutes for body protection.

**Skin protection**

Suitable protective clothing:

Overall, Natural fibres (e.g. cotton) ()

For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn.

DIN-/EN-Norms: DIN EN 468

Chemical protection clothing (Disposable suit antistatic)

Type 6 limited splash-tight

Type 5 Particle-tight (method B)

Type 4 Spray-tight

Recommended protective clothing articles:

TYVEK CLASSIC PLUS (DU PONT)

Or comparable articles from other companies.

Chemical resistant safety shoes with conductible sole ()

Wash contaminated clothing prior to re-use.

Used working clothes should not be worn outside the work area.

Street clothing should be stored separately from work clothing.

Thermal hazards:

No thermal hazards during use of this product.

**Respiratory protection**

Respiratory protection necessary at:

exceeding exposure limit values

aerosol or mist formation

high concentrations

prolonged exposure

insufficient ventilation

insufficient exhaust

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Use only respiratory protection equipment with CE-symbol including four digit test number.

Filter types:A, B, E, K. Class 1: Maximum permitted contaminant concentration in inhaled air = 1000 mL/m<sup>3</sup> (0.1 % by vol.); class 2: maximum permitted contaminant concentration in inhaled air = 5000 mL/m<sup>3</sup> (0.5 % by vol.); class 3: maximum permitted contaminant concentration in inhaled air = 10000 mL/m<sup>3</sup> (1.0 % by vol.)

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

Observe the wear time limits according GefStoffV in combination with the rules for using respiratory protection apparatus (BGR 190).

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.

Suitable respiratory protection apparatus:

Half-face mask or quarter facepiece: maximum use concentration for substances with exposure limits: P1 filter: up to a max. of 4 times the exposure limit. P2 filter: up to a max. of 10 times the exposure limit. P3 filter: up to a max. of 30 times the expo

Recommended respiratory protection articles:

Half mask or quarter mask with combination filter A1P1/A2P2 for gases, vapors and particles. (EN 140, EN 14387)

Filtrating 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/m<sup>3</sup>) / 4255 (FFA2P2SL - 5000 ml/m<sup>3</sup>) (3M)

Half-face mask or Quarter-face mask with gas filter (EN 140, EN 14387)

Filter type 6051 (A1 - 1000 ml/m<sup>3</sup>) / 6055 (A2 - 5000 ml/m<sup>3</sup>) (3M)

Full-face mask with gas filter (EN 136, EN 14387)

Gas filter type: A, Indication colour: brown

Or comparable articles from other companies.

**Environmental exposure controls**

Environmental exposure controls:

Technical measures to prevent exposure:

Discharge exhaust air only with suitable separators to atmosphere.

Organisational measures to prevent exposure:

Should not be released into the environment.

Structural measures to prevent exposure:

Use the following recovery and/or abatement technique for cleaning waste gases:

Exhaust air scrubber

Adsorption

Incineration

Further information see under section 6.2 - Environmental precautions.

**9. Physical and chemical properties****Information on basic physical and chemical properties**

Physical state: liquid  
Color: white  
Odor: characteristic

**Test method**

pH-Value: not applicable

**Changes in the physical state**

Melting point/freezing point: < - 20 °C literature value

Initial boiling point and boiling range: > 170 °C literature value

Sublimation point: not applicable

Softening point: not applicable

Pour point: not applicable

Flash point: > 60 °C EN ISO 2719

**Flammability**

Solid: not applicable (liquid)

Gas: not applicable (liquid)

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**Explosive properties**

Vapour/air-mixtures are explosive at intense warming.

The statements for steam pressure, ignition point and explosion levels apply to the solvent / solvent mixture.

Lower explosion limits: 0,6 vol. % literature value  
Upper explosion limits: 7 vol. % literature value  
Ignition temperature: > 200 °C literature value

**Auto-ignition temperature**

Solid: Not pyrophoric.  
Gas: Not pyrophoric.  
Decomposition temperature: not determined

**Oxidizing properties**

not relevant

Vapor pressure: < 1 hPa literature value  
(at 20 °C)  
Vapor pressure: < 6 hPa literature value  
(at 50 °C)  
Density (at 20 °C): (6,509 lbs/gal) 0,78 g/cm<sup>3</sup> DIN 51757  
Bulk density: not applicable (liquid)  
Water solubility: insoluble: < 0,1 g/L literature value  
(at 20 °C)

**Solubility in other solvents**

miscible with most organic solvents

Partition coefficient: not applicable (Mixtures)  
Viscosity / dynamic: not determined  
Viscosity / kinematic: < 20,5 mm<sup>2</sup>/s DIN 53015  
(at 40 °C)  
Flow time: 39 s 3 DIN EN ISO 2431  
(at 23 °C)  
Vapour density: ~ 5.4 (Air=1) literature value  
(at 25 °C)  
Evaporation rate: < 0.1 (n-butyl acetate=1) ASTM D 3539  
(at 20 °C)  
Solvent separation test: not applicable  
Solvent content: not determined

**Other information**

Solid content: not determined

Temperature class (DIN EN 60079-0): T 3 (T > +200 °C ... ≤ +300 °C)  
Limiting oxygen concentration (LOC) (DIN EN 14756): No data available  
Explosion group: IIA  
Maximum experimental safe gap (MESG) (IEC 60079-1-1): > 0,9 mm  
Minimum ignition current (MIC) (IEC 60079-11): No data available  
Minimum ignition energy (MIE) (DIN EN 13673-1): No data available  
Odour threshold: No data available  
Molecular weight: ~ 168 g/mol (calculated)

Data apply to the main component.

Conductivity (ASTM D 2624): > 1000 pS/m  
Surface tension: No data available  
Fat solubility (g/L): No data available  
Calculated oxidation potential of the mixture (OP): not relevant

Substance group relevant properties:

Explosives

not applicable

In use, may form flammable/explosive vapour-air mixture.

Flammable gases

not applicable (liquid)

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In use, may form flammable/explosive vapour-air mixture.

Flammable aerosols  
not applicable (liquid)

In use, may form flammable/explosive vapour-air mixture.

Oxidising gases  
Not oxidising.

Gases under pressure  
not applicable (liquid)

Flammable liquids  
not applicable

Flammable solids  
not applicable (liquid)

Self-reactive substances and mixtures  
not applicable

Pyrophoric liquids  
Not pyrophoric.

Pyrophoric solids  
Not pyrophoric.

self-heating substances and mixtures  
not applicable

Substances and mixtures which, in contact with water, emit flammable gases  
not applicable

Oxidising liquids  
Not oxidising.

Oxidising gases  
Not oxidising.

Organic peroxides  
not applicable

Corrosive to metals.  
Not corrosive to metals.

**10. Stability and reactivity****Reactivity**

The product is chemically stable under recommended conditions of storage, use and temperature.

**Chemical stability**

Stability: Stable

The product is chemically stable under recommended conditions of storage, use and temperature.

**Possibility of hazardous reactions**

Hazardous reactions: Will not occur

No hazardous reaction when handled and stored according to provisions.

**Conditions to avoid**

Heat, flames and sparks.

Further information see under section 7.2 - Conditions for safe storage, including any incompatibilities.

Further information see under section 10.5 - Incompatible materials.

**Incompatible materials**

Violent reaction with:

Oxidising agent, strong

Further information see under section 7.1 - Precautions for safe handling.

**Hazardous decomposition products**

Does not decompose when used for intended uses.

No known hazardous decomposition products.

Under fire conditions: See under section 5.2 - Special hazards arising from the substance or mixture.

**11. Toxicological information****Information on toxicological effects****Route(s) of Entry**

Inhalation : X

Skin : X

Ingestion : X

**Toxicokinetics, metabolism and distribution**

There are no data available on the preparation/mixture itself.

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The product has not been tested.

Information on likely routes of exposure /

Symptoms related to the physical, chemical and toxicological characteristics:

See under section 4.2 - Most important symptoms and effects, both acute and delayed.

Exposure route:

In case of ingestion:

Ingestion causes nausea, weakness and central nervous system effects.

Aspiration hazard

In case of skin contact:

slightly irritant but not relevant for classification.

Prolonged or repeated skin contact may cause removal of natural fat from the skin resulting in dermatitis (skin inflammation).

In case of inhalation:

slightly irritant but not relevant for classification.

In case of eye contact:

slightly irritant but not relevant for classification.

Conjunctival redness.

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

Not relevant

Interactive effects:

Not relevant

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.

However, some data are not complete regarding particular main components. Nevertheless according to the experience of the manufacturer there are no other hazards expected than those which are already mentioned on the label.

Mixture versus substance information:

Not relevant

**Acute toxicity**

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

**Irritation and corrosivity**

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

**Sensitizing effects**

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

**Specific target organ toxicity (STOT) - single exposure**

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

**Severe effects after repeated or prolonged exposure**

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.

Carcinogenicity (NTP): None of the ingredients is listed.

Carcinogenicity (IARC): None of the ingredients is listed.

Carcinogenicity (OSHA): None of the ingredients is listed.

**Aspiration hazard**

May be fatal if swallowed and enters airways

**12. Ecological information****Ecotoxicity**

Aquatic toxicity:

Acute (short-term) fish toxicity:

There are no data available on the preparation/mixture itself. The product has not been tested.

Acute (short-term) toxicity to crustacea:

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There are no data available on the preparation/mixture itself. The product has not been tested.  
Acute (short-term) toxicity to aquatic algae and cyanobacteria:

There are no data available on the preparation/mixture itself. The product has not been tested.

Chronic (long-term) toxicity to crustacea:

There are no data available on the preparation/mixture itself. The product has not been tested.

Chronic (long-term) fish toxicity:

There are no data available on the preparation/mixture itself. The product has not been tested.

Toxicity to other aquatic plants/organisms:

No data available (Substances/ingredient)

Terrestrial toxicity:

Acute and subchronic bird toxicity:

No data available (Substances/ingredient)

Bird reproduction toxicity:

No data available (Substances/ingredient)

Acute earthworm toxicity:

No data available (Substances/ingredient)

Chronic earthworm toxicity (reproduction):

No data available (Substances/ingredient)

Useful insect toxicity:

No data available (Substances/ingredient)

Acute plant toxicity:

No data available (Substances/ingredient)

Chronic plant toxicity:

No data available (Substances/ingredient)

Toxicity to soil macroorganisms except of arthropods:

No data available (Substances/ingredient)

Effects on soil microorganisms:

No data available (Substances/ingredient)

Behaviour in waste water treatment plants:

Due to its low solubility in water the product is almost completely mechanically separated in biological sewage plants.

**Persistence and degradability**

Abiotic degradation:

Physicochemical elimination:

Oxidation:

not applicable (Mixtures)

In air a rapid reduction is expected.

The information about ecology refers to the main components.

Hydrolysis:

not applicable (Mixtures)

It is not expected to conversion due to hydrolysis to any significant extent.

The information about ecology refers to the main components.

Photochemical elimination:

photolysis:

not applicable (Mixtures)

It is not expected to conversion due to photolysis to any significant extent.

The information about ecology refers to the main components.

Ozonolysis:

not applicable (Mixtures)

Biodegradation:

not applicable (Mixtures)

**Bioaccumulative potential**

not applicable (Mixtures)

**Mobility in soil**

Surface tension:

See under section 9.1 - Information on basic physical and chemical properties.

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**Distribution:****Water-air (volatility rate, Henry-constant):**

not applicable (Mixtures)

The product is insoluble and floats on water.

The product evaporates slowly.

The information about ecology refers to the main components.

**Soil-Water (Adsorption coefficient):**

not applicable (Mixtures)

If product enters soil, it will be mobile and may contaminate groundwater.

The information about ecology refers to the main components.

**Soil-Air (volatility rate):**

not applicable (Mixtures)

The product evaporates slowly.

The information about ecology refers to the main components.

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.

**Other adverse effects****Ozone depletion potential (ODP):**

No data available (Substances/ingredient)

**Photochemical ozone creation potential (POCP):**

No data available (Substances/ingredient)

**Global warming potential (GWP):**

No data available (Substances/ingredient)

**Endocrine disrupting potential:**

No data available

AOX: Product does not contain any organic halogens.

**13. Disposal considerations****Waste treatment methods****Advice on disposal****Waste treatment options:**

Send to a hazardous waste incinerator facility under observation of official regulations.

Dispose of waste according to applicable legislation.

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.

**Properties of waste which render it hazardous:**

Harmful

Evidence for disposal must be provided.

Consult the appropriate local waste disposal expert about waste disposal.

Waste for recycling is to be classified and labelled.

For recycling, contact recycling exchanges.

May not be disposed or deposited together with domestic garbage.

Do not mix with other wastes.

Do not flush into surface water or sanitary sewer system.

Do not dispose of waste into sewer.

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.

Clean IBCs or drums at approved facility only.

The waste producer is responsible for correct coding and designation of his wastes.

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

List of proposed waste codes/waste designations in accordance with EWC:

**Contaminated packaging****Other disposal recommendations:**

Contaminated packages must be completely emptied and can be re-used following proper cleaning.

Cleaning by recycling company.

Recommended cleansing agent:

Clean with detergents. Avoid solvent cleaners.

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Handle contaminated packages in the same way as the substance itself.  
Non-contaminated packages may be recycled.  
Packing which cannot be properly cleaned must be disposed of.  
As well uncleaned (empty) containers remain contaminated by product residues and may be hazardous by vapours.  
They have to be disposed by specialists or have to be supplied to a licensed reconditioning.  
The conditions of the regional reconditioning companies have to be observed.

**14. Transport information****US DOT 49 CFR 172.101**

**UN/ID number:** NA1993  
**Proper shipping name:** COMBUSTIBLE LIQUID, N.O.S. (Isoalkanes)  
Not regulated (in non-bulk-packagings with < 119 US-Gallons)  
**Transport hazard class(es):** Comb liq  
**Packing group:** III  
Hazard label: None

**Marine transport (IMDG)**

**UN number:** UN3082  
**UN proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Alkyl amines)  
**Transport hazard class(es):** 9  
**Packing group:** III  
Hazard label: 9



Marine pollutant: P  
Limited quantity: 5 L  
EmS: F-A, S-F

**Other applicable information**

Excepted quantity: E1  
Exception(s): Not applicable

**Air transport (ICAO)**

**UN number:** UN3082  
**UN proper shipping name:** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Alkyl amines)  
**Transport hazard class(es):** 9  
**Packing group:** III  
Hazard label: 9



Limited quantity Passenger: 30 kg G  
IATA-packing instructions - Passenger: 964  
IATA-max. quantity - Passenger: 450 L  
IATA-packing instructions - Cargo: 964  
IATA-max. quantity - Cargo: 450 L

**Other applicable information**

Excepted quantity: E1  
Passenger-LQ: Y964  
ERG Kodex: 9L

The state variations in chapter 2.8.1 and the operator variations in chapter 2.8.3 for shipping of dangerous goods in limited quantities according to chapter 2.7 of the valid ICAO/IATA Dangerous Goods Regulations have to be observed. 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



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National Postal Administration have to be observed. Airmail: prohibited.

**Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: yes



Danger releasing substance: Alkyl amines

**Special precautions for user**

Further information see under section 6, 7, 8.

**Transport in bulk according to Annex II of MARPOL 73/78 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 Administration.

Express freight / special delivery:

Refer to your National Postal Administration.

Courier service (national):

The general conditions of business of the particular courier service have to be observed.

**15. Regulatory information****U.S. Regulations****National Inventory TSCA**

All intentional used ingredients of this product are listed in the TSCA-inventory or correspond to TSCA-exceptions on polymers according to 40 CFR 723.

**SARA**

None of the ingredients is listed.

**State Regulations**California - Proposition 65 ([http://www.oehha.ca.gov/prop65/prop65\\_list/Newlist.html](http://www.oehha.ca.gov/prop65/prop65_list/Newlist.html)): No data available

Delaware - Air Quantity Management List: No data available

Idaho - Air Pollutants List: No data available

Maine - Hazardous Air Pollutants List: No data available

Massachusetts - Hazardous Substances: No data available

Michigan - Critical Materials: No data available

Minnesota - Hazardous Substances: No data available

New Jersey - Right-to-Know (RTK) Hazardous Substances, TCPA EHS List: No data available

New York - List of Hazardous Substances: No data available

Pennsylvania - Hazardous Substances: No data available

Washington - Permissible Exposure Limits for Air Contaminants: No data available

West Virginia - Toxic Air Pollutant List: No data available

**Additional information**

Other regulations, restrictions and prohibition regulations:

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

**16. Other information****Hazardous Materials Information Label (HMIS)**

Health: 1

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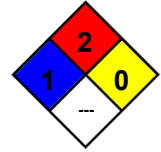
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Flammability: 2  
Physical Hazard: 0  
Personal Protection: I

**NFPA Hazard Ratings**

Health: 1  
Flammability: 2  
Reactivity: 0  
Unique Hazard: ---



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Revision No: 1,00

**Changes**

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.

**Abbreviations and acronyms**

CAS: Chemical Abstracts Service.  
DNEL: Derived No-Effect Level.  
EC50: Effective concentration, 50 percent.  
EC: European community.  
EINECS: European Inventory of Existing Commercial Chemical Substances.  
ELINCS: European List of Notified Chemical Substances.  
IC50 / ErC50: Inhibitory concentration, 50 percent.  
EN: European standard.  
FDA: US-Food and Drug Administration.  
GHS: Globally Harmonized System of Classification and Labelling of Chemicals.  
ISO: A standard of International Standards Organisation.  
LC50: Lethal concentration, 50 percent.  
LD50: Lethal Dose, 50 percent.  
log Kow (Pow): octanol-water partition coefficient.  
OECD: Organisation for Economic Co-operation and Development.  
PBT: Persistent, bioaccumulabe and toxic.  
PNEC: Predicted No-Effect Concentration.  
UN: United Nations.  
vPvB: Very persistent and very bioakkumulable.

**Other data**

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

Key literature references and sources for data:

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

Further information and practical guides on the internet:

European Chemical Substances Information System - ESIS (<http://esis.jrc.ec.europa.eu>)  
European Chemicals Agency - ECHA (<http://echa.europa.eu>)  
ECHA - Registered substances (<http://echa.europa.eu/de/information-on-chemicals/registered-substances>)  
ECHA - Candidate List of Substances of Very High Concern for Authorisation (<http://echa.europa.eu/de/candidate-list-table>)  
ECHA - List of restrictions table (<http://echa.europa.eu/de/addressing-chemicals-of-concern/restrictions/list-of-restrictions/list-of-restrictions-table>)  
ECHA - Authorisation List (<http://echa.europa.eu/hr/addressing-chemicals-of-concern/authorisation/recommendation-for-inclusion-in-the-authorisation-list/authorisation-list>)  
ECHA - C&L Inventory (<http://echa.europa.eu/en/web/guest/regulations/clp/cl-inventory>)  
eChemPortal (<http://www.echemportal.org>)

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The access to European Union law - EUR-Lex (<http://eur-lex.europa.eu>)  
Environmental Protection Agency - EPA (<http://www.epa.gov>) / ECOTOX-Database (<http://cfpub.epa.gov/ecotox>)

Recommended restriction of application :

See under section 1.2 - Uses advised against.

Use this product only for intended purpose in accordance with our product informations.

Please refer to our internet website for more information (<http://www.acmos.com>).

Classification for mixtures and used evaluation method according to regulation (EC) 1272/2008 [CLP]:

Calculation method.

Training advice:

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

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.

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 singularly 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).

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*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*