

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 06.08.2020

Version number 6

Revision: 06.08.2020

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

1.1 Product identifier

- Trade name: **Lettering Colours**
- Article number: 11418, 11419
- UFI: 5CN3-80V2-M00K-08P9

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

No further relevant information available.

Application of the substance / the mixture

Lacquer

1.3 Details of the supplier of the safety data sheet

- Manufacturer/Supplier: AKEMI chemisch technische Spezialfabrik GmbH
Lechstrasse 28
D 90451 Nürnberg
- Tel. +49(0)911-642960
Fax. +49(0)911-644456
e-mail info@akemi.de

Further information obtainable from:

Laboratory

1.4 Emergency telephone number:

Product Safety Department AKEMI chemisch technische Spezialfabrik GmbH
Tel. +49(0)911-64296-59
Reachable during the following office hours:
Monday – Thursday from 07:30 a.m. to 16:30 p.m.
Friday from 07:30 a.m. to 13:30 p.m.
+44 (171) 635 91 91
National Poison Inform. Centre
Medical Toxicology Unit
Avalonley Road
London SE14 5ER

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

- Classification according to Regulation (EC) No 1272/2008



GHS02 flame

Aerosol 1 H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.
STOT SE 3 H336 May cause drowsiness or dizziness.

2.2 Label elements

- Labelling according to Regulation (EC) No 1272/2008
- Hazard pictograms

The product is classified and labelled according to the CLP regulation.



GHS02 GHS07

Signal word

Danger

Hazard-determining components of labelling:

acetone
n-butyl acetate
2-methoxy-1-methylethyl acetate

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· <u>Hazard statements</u>	H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
	H319 Causes serious eye irritation.
	H336 May cause drowsiness or dizziness.
· <u>Precautionary statements</u>	P101 If medical advice is needed, have product container or label at hand.
	P102 Keep out of reach of children.
	P103 Read label before use.
	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
	P211 Do not spray on an open flame or other ignition source.
	P251 Do not pierce or burn, even after use.
	P261 Avoid breathing spray.
	P280 Wear protective gloves / eye protection.
	P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P312 Call a POISON CENTER/doctor if you feel unwell.
	P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
	P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· <u>Additional information:</u>	EUH066 Repeated exposure may cause skin dryness or cracking. Warning! Hazardous respirable droplets may be formed when sprayed. Do not breathe spray or mist. Buildup of explosive mixtures possible without sufficient ventilation.
· 2.3 Other hazards	
· <u>Results of PBT and vPvB assessment</u>	
· <u>PBT:</u>	Not applicable.
· <u>vPvB:</u>	Not applicable.

SECTION 3: Composition/information on ingredients**3.2 Chemical characterisation: Mixtures**· Description: Mixture of substances listed below with nonhazardous additions.· Dangerous components:

CAS: 67-64-1 EINECS: 200-662-2 Index number: 606-001-00-8 Reg.nr.: 01-2119471330-49	acetone Flam. Liq. 2, H225 Eye Irrit. 2, H319; STOT SE 3, H336	25-50%
CAS: 115-10-6 EINECS: 204-065-8 Index number: 603-019-00-8 Reg.nr.: 01-2119472128-37	dimethyl ether Flam. Gas 1, H220; Flam. Liq. 1, H224 Press. Gas (Comp.), H280	12.5-25%
CAS: 123-86-4 EINECS: 204-658-1 Index number: 607-025-00-1 Reg.nr.: 01-2119485493-29	n-butyl acetate Flam. Liq. 3, H226 STOT SE 3, H336	<10%
CAS: 74-98-6 EINECS: 200-827-9 Index number: 601-003-00-5 Reg.nr.: 01-2119486944-21	propane Flam. Gas 1, H220 Press. Gas (Comp.), H280	<10%
CAS: 106-97-8 EINECS: 203-448-7 Index number: 601-004-00-0 Reg.nr.: 01-2119474691-32	butane, pure Flam. Gas 1, H220; Flam. Liq. 1, H224 Press. Gas (Comp.), H280	<10%

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CAS: 108-65-6 EINECS: 203-603-9 Index number: 607-195-00-7 Reg.nr.: 01-211947591-29	2-methoxy-1-methylethyl acetate ⚠ Flam. Liq. 3, H226 ⚠ STOT SE 3, H336	<10%
CAS: 75-28-5 EINECS: 200-857-2 Index number: 601-004-01-8 Reg.nr.: 01-2119485395-27	isobutane (containing $\geq 0,1\%$ butadiene (203-450-8)) ⚠ Flam. Gas 1, H220; Flam. Liq. 1, H224 Press. Gas (Comp.), H280	1-5%
CAS: 9004-70-0 Index number: 603-037-00-6	nitrocellulose solutions, with not more than 12.6% nitrogen, by dry mass, and not more than 55% nitrocellulose ⚠ Flam. Sol. 1, H228	1-5%
CAS: 13463-67-7 EINECS: 236-675-5 Index number: 022-006-00-2 Reg.nr.: 01-2119489379-17-xxxx	titanium dioxide ⚠ Carc. 2, H351	1-5%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

· 4.1 Description of first aid measures

- General information: Take affected persons out into the fresh air.
Position and transport stably in side position.
Immediately remove any clothing soiled by the product.
- After inhalation: Supply fresh air; consult doctor in case of complaints.
- After skin contact: Generally the product does not irritate the skin.
Immediately wash with water and soap and rinse thoroughly.
- After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
- After swallowing: Drink plenty of water and provide fresh air. Call for a doctor immediately.

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

Breathing difficulty
Headache
Dizziness
Dizziness
Nausea
Coughing
Profuse sweating

- Information for doctor: Symptoms in intoxication with (aromatic) hydrocarbons (dosis letalis about 30 g)
a) In acute intoxication: headache, dizziness, euphoria, gastro-intestinal dysfunction, state of excitement, coma.
b) In chronic intoxication: myelotoxic damage, fatigue, dizziness, emaciation, cardiac palpitation after physical exercise, leucopenia, anemia, leukosis.
Therapy in hydrocarbons intoxication: In case of inhalation provision of fresh air; in case of peroral intake administration of Carbo medicinalis; only after intubation conduct of gastrolavage in application of Carbo medicinalis; in case of cramps administration of Diazepam 20 mg intravenously.
Danger of impaired breathing.

· Hazards

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

If swallowed, gastric irrigation with added, activated carbon.
If swallowed or in case of vomiting, danger of entering the lungs.

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SECTION 5: Firefighting measures**5.1 Extinguishing media**

· Suitable extinguishing agents: CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

· For safety reasons unsuitable extinguishing agents: Water with full jet

5.2 Special hazards arising from the substance or mixture

In case of fire, the following can be released:
Carbon monoxide (CO)
Formation of toxic gases is possible during heating or in case of fire.
Under certain fire conditions, traces of other toxic gases cannot be excluded.

5.3 Advice for firefighters

· Protective equipment: Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
Wear fully protective suit.

· Additional information Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation
Keep away from ignition sources.
Use respiratory protective device against the effects of fumes/dust/aerosol.
Wear protective equipment. Keep unprotected persons away.

6.2 Environmental precautions:

Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.

6.3 Methods and material for containment and cleaning up:

Dispose of the material collected according to regulations.
Ensure adequate ventilation.

6.4 Reference to other sections

See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage**7.1 Precautions for safe handling**

Keep receptacles tightly sealed.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
Use only in well ventilated areas.
Keep away from heat and direct sunlight.
Ensure good ventilation/exhaustion at the workplace.
Open and handle receptacle with care.

Information about fire - and explosion protection:

Fumes can combine with air to form an explosive mixture.
Do not spray onto a naked flame or any incandescent material.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

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Pressurised container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.

7.2 Conditions for safe storage, including any incompatibilities· Storage:· Requirements to be met by storerooms and receptacles:

Store only in the original receptacle.
Prevent any seepage into the ground.
Store in a cool location.
Observe official regulations on storing packagings with pressurised containers.

· Information about storage in one common storage facility:

Store away from oxidising agents.
Store away from foodstuffs.

· Further information about storage conditions:

Keep container tightly sealed.
Do not seal receptacle gas tight.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.

· Storage class:

2 B

· **7.3 Specific end use(s)**

No further relevant information available.

SECTION 8: Exposure controls/personal protection· Additional information about design of technical facilities:

No further data; see item 7.

· **8.1 Control parameters**· Ingredients with limit values that require monitoring at the workplace:**67-64-1 acetone**

WEL Short-term value: 3620 mg/m³, 1500 ppm
Long-term value: 1210 mg/m³, 500 ppm

115-10-6 dimethyl ether

WEL Short-term value: 958 mg/m³, 500 ppm
Long-term value: 766 mg/m³, 400 ppm

123-86-4 n-butyl acetate

WEL Short-term value: 966 mg/m³, 200 ppm
Long-term value: 724 mg/m³, 150 ppm

106-97-8 butane, pure

WEL Short-term value: 1810 mg/m³, 750 ppm
Long-term value: 1450 mg/m³, 600 ppm
Carc (if more than 0.1% of buta-1.3-diene)

108-65-6 2-methoxy-1-methylethyl acetate

WEL Short-term value: 548 mg/m³, 100 ppm
Long-term value: 274 mg/m³, 50 ppm
Sk

· DNELs**67-64-1 acetone**

Oral	DNEL (Langzeit-wiederholt)	62 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	186 mg/kg bw/day (ARB) 62 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	2,420 mg/m ³ Air (ARB)
	DNEL (Langzeit-wiederholt)	1,210 mg/m ³ Air (ARB) 200 mg/m ³ Air (BEV)

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115-10-6 dimethyl ether

Inhalative	DNEL (Langzeit-wiederholt)	1,894 mg/m ³ Air (ARB)
		471 mg/m ³ Air (BEV)

123-86-4 n-butyl acetate

Oral	DNEL (Kurzzeit-akut)	2 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	2 mg/kg bw/day (BEV)
Dermal	DNEL (Kurzzeit-akut)	11 mg/kg bw/day (ARB) 6 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	11 mg/kg bw/day (ARB) 6 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	960 mg/m ³ Air (ARB) 860 mg/m ³ Air (BEV)
	DNEL (Langzeit-wiederholt)	480 mg/m ³ Air (ARB) 102.34 mg/m ³ Air (BEV)

108-65-6 2-methoxy-1-methylethyl acetate

Oral	DNEL (Langzeit-wiederholt)	1.67 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	153.5 mg/kg bw/day (ARB) 54.8 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	550 mg/m ³ Air (ARB)
	DNEL (Langzeit-wiederholt)	275 mg/m ³ Air (ARB) 33 mg/m ³ Air (BEV)

13463-67-7 titanium dioxide

Oral	DNEL (Langzeit-wiederholt)	700 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	10 mg/m ³ Air (ARB)

· PNECs

67-64-1 acetone

PNEC (wässrig)	100 mg/l (KA)
	1.06 mg/l (MW)
	10.6 mg/l (SW)
	21 mg/l (WAS)
PNEC (fest)	29.5 mg/kg Trockengew (BO)
	3.04 mg/kg Trockengew (MWS)
	30.4 mg/kg Trockengew (SWS)

115-10-6 dimethyl ether

PNEC (wässrig)	160 mg/l (KA)
	0.016 mg/l (MW)
	0.155 mg/l (SW)
PNEC (fest)	0.045 mg/kg Trockengew (BO)
	0.0681 mg/kg Trockengew (MWS)
	0.681 mg/kg Trockengew (SWS)

123-86-4 n-butyl acetate

PNEC (wässrig)	35.6 mg/l (KA)
	0.018 mg/l (MW)
	0.18 mg/l (SW)
	0.36 mg/l (WAS)
PNEC (fest)	0.0903 mg/kg Trockengew (BO)

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	0.0981 mg/kg Trockengew (MWS) 0.981 mg/kg Trockengew (SWS)
108-65-6 2-methoxy-1-methylethyl acetate	
PNEC (wässrig)	100 mg/l (KA) 0.0635 mg/l (MW) 0.635 mg/l (SW) 6.35 mg/l (WAS)
PNEC (fest)	0.29 mg/kg Trockengew (BO) 0.329 mg/kg Trockengew (MWS) 3.29 mg/kg Trockengew (SWS)
13463-67-7 titanium dioxide	
PNEC (wässrig)	100 mg/l (KA) 1 mg/l (MW) 0.127 mg/l (SW)
PNEC (fest)	100 mg/kg Trockengew (BO) 100 mg/kg Trockengew (MWS) 1,000 mg/kg Trockengew (SWS)

· Additional information: The lists valid during the making were used as basis.

8.2 Exposure controls

- Personal protective equipment:
- General protective and hygienic measures:

Do not eat, drink, smoke or sniff while working.
Use skin protection cream for skin protection.
Clean skin thoroughly immediately after handling the product.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes.
Avoid contact with the eyes and skin.

- Respiratory protection:

Short term filter device:
Filter A/P2
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

- Protection of hands:

Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.
Skin protection agent recommendation for preventive skin shelter without use of protective gloves:
STOKO EMULSION (<http://www.stoko.com>)
STOKODERM (<http://www.stoko.com>)
Skin protection agent recommendation for preventive skin shelter in application and combination of protective gloves:
STOKO EMULSION (<http://www.stoko.com>)
Skin protection recommendation for skin cleaning after product handling:
SOLOPOL (<http://www.stoko.com>)
Kresto Classic (<http://debstoko.com>)
Skin protection agent recommendation for skin aftercare:
STOKO VITAN (<http://www.stoko.com>)
The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived decree EN374, respectively, e.g. the above listed protection glove type. The mentioned permeation times' data were generated and verified with material samples of the recommended protection glove type in the scope of laboratory analyses of the company KCL GmbH in compliance with EN374.

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This recommendation refers exclusively to the material safety data sheet referenced product delivered by Akemi and the indicated field of application. In case of product dilution or in case of mixture with different substances or chemicals, and in condition of EN374 deviation the producer of CE-approved protection gloves must be contacted for detailed information (e.g., KCL GmbH, Germany, 36124 Eichenzell, internet: <http://www.kcl.de>).



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves

Nitrile rubber, NBR

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material

Value for the permeation: Level ≤ 1 , 10 min

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· For the permanent contact gloves made of the following materials are suitable:

Nitrile rubber, NBR

Camatril (KCL, Art_No. 730, 731, 732, 733)

· As protection from splashes gloves made of the following materials are suitable:

Nitrile rubber, NBR

Camatril (KCL, 730, 731, 732, 733)

· Not suitable are gloves made of the following materials:

Natural rubber, NR

Chloroprene rubber, CR

Leather gloves

Strong material gloves

· Eye protection:



Tightly sealed goggles

· Body protection:

Protective work clothing

SECTION 9: Physical and chemical properties

· 9.1 Information on basic physical and chemical properties

· General Information

· Appearance:

Form:

Aerosol

Colour:

According to product specification

· Odour:

Specific type

· pH-value:

Not applicable

· Change in condition

Melting point/freezing point:

Undetermined.

Initial boiling point and boiling range: Not applicable, as aerosol.

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· <u>Flash point:</u>	Not applicable, as aerosol.
· <u>Ignition temperature:</u>	240 °C
· <u>Auto-ignition temperature:</u>	Product is not selfigniting.
· <u>Explosive properties:</u>	In use, may form flammable/explosive vapour-air mixture.
· <u>Explosion limits:</u>	
<u>Lower:</u>	1.2 Vol %
<u>Upper:</u>	26.2 Vol %
· <u>Vapour pressure at 20 °C:</u>	4,000 hPa
· <u>Density at 20 °C:</u>	0.74 g/cm ³
· <u>Solubility in / Miscibility with water:</u>	Not miscible or difficult to mix.
· <u>Viscosity:</u>	
<u>Dynamic:</u>	Not determined.
<u>Kinematic:</u>	Not determined.
· <u>Solvent content:</u>	
<u>Organic solvents:</u>	87.6 %
<u>Solids content:</u>	6.9 %
· 9.2 Other information	No further relevant information available.

SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:** No further relevant information available.
- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- Acute toxicity Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:

ATE (Acute Toxicity Estimates)

Dermal	LD50	146,573 mg/kg
Inhalative	LC50/4 h	465-491 mg/l (rat)

67-64-1 acetone

Oral	LD50	5,800 mg/kg (rat) (OECD 401)
	NOEL	900 mg/kg (rat)
Dermal	LD50	15,688 mg/kg (rat)
		>15,800 mg/kg (rbt)
Inhalative	LC50/4 h	76 mg/l (rat)
	NOAEL	22,500 mg/m ³ (rat)

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	LC50/48h	8,450 mg/l (cru) 2,262 mg/l (daphnia magna)
115-10-6 dimethyl ether		
Inhalative	LC50/4h	164,000 mg/m ³ (rat)
	LC50/4 h	308 mg/l (rat)
	LC50/48h	>4,000 mg/l (daphnia magna)
123-86-4 n-butyl acetate		
Oral	LD50	10,800 mg/kg (rat) (OECD 423)
Dermal	LD50	>17,600 mg/kg (rabbit) (OECD 402)
Inhalative	LC50/4 h	>21 mg/l (rat) (OECD 403)
	LC50	390 mg/m ³ (rat)
	LC50/48h	64 mg/l (Brachydanio rerio)
106-97-8 butane, pure		
Inhalative	LC50/4 h	658 mg/l (rat)
108-65-6 2-methoxy-1-methylethyl acetate		
Oral	LD50	6,190 mg/kg (rat) (OECD 401)
	NOAEL-Werte	1,500 mg/kg (rat)
Dermal	LD50	>5,000 mg/kg (rabbit) (OECD 402)
		>2,000 mg/kg (rat)
Inhalative	LC50/4h	>10,000 mg/m ³ (rat)
	LC50	>23.8 mg/l (rat)
	LC50/4 h	35.7 mg/l (rat)
	LC50/48h	100 mg/l (Desmodesmus subspicatus)
13463-67-7 titanium dioxide		
Oral	LD50	>5,010 mg/kg (rat)
	NOAEL	24,000 mg/kg (rat)
Dermal	LD50	>10,010 mg/kg (rbt)
Inhalative	NOAEL	10 mg/m ³ (rat)
	LC50/48h	>100 mg/l (daphnia magna)

- Primary irritant effect:
- Skin corrosion/irritation Based on available data, the classification criteria are not met.
- Serious eye damage/irritation Causes serious eye irritation.
- Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
- Germ cell mutagenicity Based on available data, the classification criteria are not met.
- Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- STOT-single exposure May cause drowsiness or dizziness.
- STOT-repeated exposure Based on available data, the classification criteria are not met.
- Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information· **12.1 Toxicity**· Aquatic toxicity:**67-64-1 acetone**

EC50/96h 7,200 mg/l (green alge)

8,300 mg/l (piscis)

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	8,300 mg/l (lepomis macrochirus)
	7,500 mg/l (senastrum capricornutum)
EC50	1,700 mg/l (bacteria)
LC50	6,368 mg/l (piscis)
EC5/16h	1,700 mg/l (pseudomonas putida)
EC5/72h	28 mg/l (Entosiphon sulcatum)
EC5/8d	530 mg/l (Microcystis aeruginosa)
IC5/8d	7,500 mg/l (Scenedesmus quadricauda)
EC50/48h	3,400 mg/l (green alge)
	8,800 mg/l (daphnia magna)
NOEC	1,700 mg/kg (pseudomonas putida)
	4,740 mg/kg (senastrum capricornutum)
NOELR/28d	2,212 mg/l (daphnia magna)
EC50/48h	12,600 mg/l (Danio rerio.)
	8,800 mg/l (daphnia magna)
LC50/96h	8,300 mg/l (lem)
	8,300 mg/l (lepomis macrochirus)
	7,500 mg/l (Leuciscus idus)
	5,540 mg/l (Oncorhynchus mykiss)
	8,120 mg/l (Pimephales promelas)

115-10-6 dimethyl ether

EC50/96h	154.9 mg/l (green alge)
	>4,000 mg/l (poecilia reticulata)
	154.917 mg/l (Pseudokirchneriella subcapitata)
EC50/48h	>4,000 mg/l (daphnia magna)
LC50/96h	>4,000 mg/l (poecilia reticulata)

123-86-4 n-butyl acetate

EC50/24h	72.8 mg/l (daphnia magna) (DIN 38412)
EC50/96h	320 mg/l (green alge)
LC50/24h	205 mg/l (daphnia magna)
IC50/72h	648 mg/l (Desmodesmus subspicatus)
EC10/18h	959 mg/l (pseudomonas putida)
EC50/48h	44 mg/l (daphnia magna)
EC50/16h	959 mg/l (pseudomonas putida)
NOEC	200 mg/kg (Desmodesmus subspicatus)
EC50/72h	647.7 mg/l (Desmodesmus subspicatus) (Zellvermehrungshemmtest)
	674 mg/l (Scenedesmus subspicatus)
LC50/96h	62 mg/l (Danio rerio.)
	81 mg/l (piscis)
	100 mg/l (lepomis macrochirus)
	62 mg/l (Leuciscus idus) (DIN 38412)
	18 mg/l (pimephales promelas) (OECD 203)

108-65-6 2-methoxy-1-methylethyl acetate

EC50	>100 mg/l (daphnia magna)
LC50	63.5 mg/l (Oryzias latipes)
EC50/48h	>500 mg/l (daphnia magna) (RL 67/548/EWG. Anhang V, C.2.)

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ErC50/72h	>1,000 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
EC20/0.5h	>1,000 mg/l (BES) (OECD 209)
NOEC	47.5 mg/l (Oryzias latipes)
NOEC/21d	≥100 mg/l (daphnia magna)
EC10	>1,000 mg/l (BES)
LC50/96h	134 mg/l (Oncorhynchus mykiss) >1,000 mg/l (Oryzias latipes) 161 mg/l (Pimephales promelas)

13463-67-7 titanium dioxide

EC50	>1,000 mg/l (bacteria)
EC50/48h	>100 mg/l (daphnia magna)
EC50/72h	16 mg/l (Pseudokirchneriella subcapitata)
LC50/96h	>100 mg/l (Oncorhynchus mykiss) >1,000 mg/l (pimephales promelas)

- **12.2 Persistence and degradability**

No further relevant information available.

- **12.3 Bioaccumulative potential**

No further relevant information available.

- **12.4 Mobility in soil**

No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Danger to drinking water if even extremely small quantities leak into the ground. Do not allow product to reach ground water, water course or sewage system. Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

- **12.5 Results of PBT and vPvB assessment**

- **PBT:**

Not applicable.

- **vPvB:**

Not applicable.

- **12.6 Other adverse effects**

No further relevant information available.

SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**

- **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

- **European waste catalogue**

08 00 00	WASTES FROM THE MANUFACTURE, FORMULATION, SUPPLY AND USE (MFSU) OF COATINGS (PAINTS, VARNISHES AND VITREOUS ENAMELS), ADHESIVES, SEALANTS AND PRINTING INKS
08 01 00	wastes from MFSU and removal of paint and varnish
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances
15 00 00	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01 00	packaging (including separately collected municipal packaging waste)
15 01 04	metallic packaging
15 00 00	WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED
15 01 00	packaging (including separately collected municipal packaging waste)
15 01 10*	packaging containing residues of or contaminated by hazardous substances

- **Uncleaned packaging:**

- **Recommendation:**

Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

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· Recommended cleansing agents: Alcohol
acetone

SECTION 14: Transport information

· **14.1 UN-Number**
· ADR, IMDG, IATA UN1950

· **14.2 UN proper shipping name**
· ADR 1950 AEROSOLS
· IMDG AEROSOLS
· IATA AEROSOLS, flammable

· **14.3 Transport hazard class(es)**

· ADR



· Class 2.5F Gases.
· Label 2.1

· IMDG, IATA



· Class 2.1
· Label 2.1

· **14.4 Packing group**

· ADR, IMDG, IATA Void

· **14.5 Environmental hazards:**

· Marine pollutant: No

· **14.6 Special precautions for user**

· Hazard identification number (Kemler code): -
· EMS Number: F-D,S-U
· Stowage Code SW1 Protected from sources of heat.
SW22 For AEROSOLS with a maximum capacity of 1 litre:
Category A. For AEROSOLS with a capacity above 1 litre:
Category B. For WASTE AEROSOLS: Category C, Clear of living
quarters.
· Segregation Code SG69 For AEROSOLS with a maximum capacity of 1 litre:
Segregation as for class 9. Stow "separated from" class 1 except
for division 1.4.
For AEROSOLS with a capacity above 1 litre:
Segregation as for the appropriate subdivision of class 2.
For WASTE AEROSOLS:
Segregation as for the appropriate subdivision of class 2.

· **14.7 Transport in bulk according to Annex II of
Marpol and the IBC Code**

Not applicable.

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· Transport/Additional information:

· ADR

· Limited quantities (LQ)

1L

· Excepted quantities (EQ)

Code: E0

Not permitted as Excepted Quantity

· Transport category

2

· Tunnel restriction code

D

· IMDG

· Limited quantities (LQ)

1L

· Excepted quantities (EQ)

Code: E0

Not permitted as Excepted Quantity

· UN "Model Regulation":

UN 1950 AEROSOLS, 2.1

SECTION 15: Regulatory information

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

· Directive 2012/18/EU

· Named dangerous substances - ANNEX I

None of the ingredients is listed.

· Seveso category

P3a FLAMMABLE AEROSOLS

· Qualifying quantity (tonnes) for the application of lower-tier requirements

150 t

· Qualifying quantity (tonnes) for the application of upper-tier requirements

500 t

· REGULATION (EC) No 1907/2006 ANNEX XVII

Conditions of restriction: 3

· DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II

None of the ingredients is listed.

· National regulations:

· Information about limitation of use:

Employment restrictions concerning juveniles must be observed.

Employment restrictions concerning pregnant and lactating women must be observed.

· Waterhazard class:

Water hazard class 2 (Self-assessment): hazardous for water.

· VOC EU

682.8 g/l

· **15.2 Chemical safety assessment:**

A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· Relevant phrases

H220 Extremely flammable gas.

H224 Extremely flammable liquid and vapour.

H225 Highly flammable liquid and vapour.

H226 Flammable liquid and vapour.

H228 Flammable solid.

H280 Contains gas under pressure; may explode if heated.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

H351 Suspected of causing cancer.

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- Recommended restriction of use refer to Technical Data Sheet (TDS)
- Department issuing SDS: Laboratory
- Contact: Dieter Zimmermann
Elke Hake
Fon ++49 (0)911 64296-59
@mail E.Hake@akemi.de
- Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
 ICAO: International Civil Aviation Organisation
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 IMDG: International Maritime Code for Dangerous Goods
 IATA: International Air Transport Association
 GHS: Globally Harmonised System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 ELINCS: European List of Notified Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 DNEL: Derived No-Effect Level (REACH)
 PNEC: Predicted No-Effect Concentration (REACH)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 Flam. Gas 1: Flammable gases – Category 1
 Aerosol 1: Aerosols – Category 1
 Press. Gas (Comp.): Gases under pressure – Compressed gas
 Flam. Liq. 1: Flammable liquids – Category 1
 Flam. Liq. 2: Flammable liquids – Category 2
 Flam. Liq. 3: Flammable liquids – Category 3
 Flam. Sol. 1: Flammable solids – Category 1
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 Carc. 2: Carcinogenicity – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- * Data compared to the previous version altered. Adaptation in accordance with REACH directive 1907/2006/EC