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

· **1.1 Product identifier**
· Trade name: **Brake Calliper Spray**

· Article number: 90070, 90071, 90072, 90075, 90077
· UFI: EWM3-R0E3-3003-PJRY
· **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 Tel. +49(0)911-642960
Lechstrasse 28 Fax. +49(0)911-644456
D 90451 Nürnberg 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.
· Response: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF exposed or concerned: Get medical advice/attention.
· Storage: Store in a well-ventilated place. Keep cool.
Store in a well-ventilated place. Keep container tightly closed.
Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

· **2.2 Label elements**
· Labelling according to Regulation (EC) No 1272/2008 The product is classified and labelled according to the CLP regulation.

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· Hazard pictograms

GHS02 GHS07

· Signal word Danger

· Hazard-determining components of labelling:
acetone
n-butyl acetate
2-methoxy-1-methylethyl acetate

· Hazard statements
H222-H229 Extremely flammable aerosol. Pressurised container: May burst if heated.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.

· Precautionary statements
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
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.
P260 Do not breathe 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.
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.

· Additional information:
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**
· Results of PBT and vPvB assessment
· PBT: Not applicable.
· vPvB: 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 1A, H220; Flam. Liq. 1, H224 Press. Gas (Comp.), H280	12.5-25%
CAS: 74-98-6 EINECS: 200-827-9 Index number: 601-003-00-5 Reg.nr.: 01-2119486944-21	propane Flam. Gas 1A, H220 Press. Gas (Comp.), H280	<12.5%

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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: 106-97-8 EINECS: 203-448-7 Index number: 601-004-00-0 Reg.nr.: 01-2119474691-32	butane, pure Flam. Gas 1A, H220; Flam. Liq. 1, H224 Press. Gas (Comp.), H280	<10%
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: 601-004-00-0 Reg.nr.: 01-2119485395-27	isobutane Flam. Gas 1A, 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%
EC number: 905-588-0 Index number: 601-022-00-9 Reg.nr.: 01-2119488216-32; 01-2119486136-34	reaction mass of ethylbenzole and xylole Flam. Liq. 3, H226 STOT RE 2, H373; Asp. Tox. 1, H304 Acute Tox. 4, H312; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335	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%
CAS: 64-17-5 EINECS: 200-578-6 Index number: 603-002-00-5 Reg.nr.: 01-2119457610-43	ethanol Flam. Liq. 2, H225 Eye Irrit. 2, H319	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: Immediately remove any clothing soiled by the product.
Take affected persons out into the fresh air.

· After inhalation: Supply fresh air; consult doctor in case of complaints.

· After skin contact: Generally the product does not irritate the skin.
Rinse with warm water.

· 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**

Headache
Dizziness
Dizziness
Nausea

· Hazards Danger of impaired breathing.

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

If swallowed, gastric irrigation with added, activated carbon.

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If swallowed or in case of vomiting, danger of entering the lungs.

* **SECTION 5: Firefighting measures**

· **5.1 Extinguishing media**

· Suitable extinguishing agents: CO_2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire extinguishing methods suitable to surrounding conditions.

· 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.

· **5.3 Advice for firefighters**

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

* **SECTION 6: Accidental release measures**

· **6.1 Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.
Keep away from ignition sources.
Ensure adequate ventilation
Mount respiratory protective device.

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

· **6.3 Methods and material for containment and cleaning up:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Dispose of the material collected according to regulations.
Do not flush with water or aqueous cleansing agents
Ensure adequate ventilation.
Dispose contaminated material as waste according to item 13.

· **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 away from heat and direct sunlight.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
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.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
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.
Do not spray onto a naked flame or any incandescent material.

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· **7.2 Conditions for safe storage, including any incompatibilities**
· Storage:
· Requirements to be met by storerooms and receptacles: Store in a cool location.
Observe official regulations on storing packagings with pressurised containers.
· Information about storage in one common storage facility: Not required.
· 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
64-17-5 ethanol	
WEL	Long-term value: 1920 mg/m³, 1000 ppm

· 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/m³ Air (ARB)
	DNEL (Langzeit-wiederholt)	1,210 mg/m³ Air (ARB)
		200 mg/m³ Air (BEV)
115-10-6 dimethyl ether		
Inhalative	DNEL (Langzeit-wiederholt)	1,894 mg/m³ Air (ARB)
		471 mg/m³ Air (BEV)

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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/m³ Air (ARB)
		860 mg/m³ Air (BEV)
	DNEL (Langzeit-wiederholt)	480 mg/m³ Air (ARB)
		102.34 mg/m³ 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/m³ Air (ARB)
	DNEL (Langzeit-wiederholt)	275 mg/m³ Air (ARB)
		33 mg/m³ Air (BEV)
reaction mass of ethylbenzole and xylole		
Oral	DNEL (Langzeit-wiederholt)	1.6 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	180 mg/kg bw/day (ARB)
		108 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	289-442 mg/m³ Air (ARB)
		260 mg/m³ Air (BEV)
	DNEL (Langzeit-wiederholt)	77 mg/m³ Air (ARB)
		14.8-65.3 mg/m³ Air (BEV)
13463-67-7 titanium dioxide		
Oral	DNEL (Langzeit-wiederholt)	700 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	10 mg/m³ Air (ARB)
64-17-5 ethanol		
Oral	DNEL (Langzeit-wiederholt)	87 mg/kg bw/day (BEV)
Dermal	DNEL (Kurzzeit-akut)	950 mg/kg bw/day (BEV)
	DNEL (Langzeit-wiederholt)	343 mg/kg bw/day (ARB)
		206 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	1,900 mg/m³ Air (ARB)
		950 mg/m³ Air (BEV)
	DNEL (Langzeit-wiederholt)	950 mg/m³ Air (ARB)
		114 mg/m³ Air (BEV)

· 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)

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	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)
	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)
reaction mass of ethylbenzole and xylole	
PNEC (wässrig)	6.58 mg/l (KA)
	0.327 mg/l (MW)
	0.327 mg/l (SW)
PNEC (fest)	2.31 mg/kg Trockengew (BO)
	12.46 mg/kg Trockengew (MWS)
	12.46 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)
64-17-5 ethanol	
PNEC (wässrig)	580 mg/l (KA)
	0.79 mg/l (MW)
	0.96 mg/l (SW)
	2.75 mg/l (WAS)
PNEC (fest)	0.63 mg/kg Trockengew (BO)
	0.72 mg/kg Trockengew (FUT)
	2.9 mg/kg Trockengew (MWS)
	3.6 mg/kg Trockengew (SWS)

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

· **8.2 Exposure controls**
· Personal protective equipment:
· General protective and hygienic measures:
The usual precautionary measures are to be adhered to when handling chemicals.
Do not eat, drink, smoke or sniff while working.
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 and skin.
Use skin protection cream for skin protection.
Clean skin thoroughly immediately after handling the product.

· Respiratory protection: Not necessary if room is well-ventilated.
Use suitable respiratory protective device in case of insufficient ventilation.
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.
Filter AX

· Protection of hands:

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
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 anylyses of the company KCL GmbH in compliance with EN374.
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).
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
Preventive skin protection by use of skin-protecting agents is recommended.
After use of gloves apply skin-cleaning agents and skin cosmetics.

· Material of gloves Butyl rubber, BR
· Penetration time of glove material The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.
Value for the permeation: Level ≤ 1, 10 min

· As protection from splashes gloves made of the following materials are suitable:
Butoject (KCL, Art_No. 897, 898)
Combi-Latex (KCL, Art_No. 395)

· Not suitable are gloves made of the following materials:
Nitrile rubber, NBR
Neoprene gloves
Leather gloves
Strong material gloves

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· Eye protection:

Tightly sealed goggles

· Body protection: Protective work clothing

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· General Information	
· Appearance:	
Form:	Aerosol
Colour:	Different according to colouring
· 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.
· Flash point:	Not applicable, as aerosol.
· Ignition temperature:	240 °C
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	In use, may form flammable/explosive vapour-air mixture.
· Explosion limits:	
Lower:	1.7 Vol %
Upper:	26.2 Vol %
· Vapour pressure at 20 °C:	8,300 hPa
· Density at 20 °C:	0.8 g/cm³
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Viscosity:	
Dynamic:	Not determined. Not applicable
Kinematic:	Not determined. Not applicable
· Solvent content:	
Organic solvents:	83.5 %
Solids content:	8.3 %
· **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.

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· **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	74,081 mg/kg
Inhalative	LC50/4 h	235-248 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/m³ (rat)
	LC50/48h	8,450 mg/l (cru)
		2,262 mg/l (daphnia magna)
115-10-6 dimethyl ether		
Inhalative	LC50/4h	164,000 mg/m3 (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/m3 (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/m3 (rat)
	LC50	>23.8 mg/l (rat)
	LC50/4 h	35.7 mg/l (rat)
	LC50/48h	100 mg/l (Desmodesmus subspicatus)
75-28-5 isobutane		
Inhalative	LC50/4 h	>50 mg/l (rat)
reaction mass of ethylbenzole and xylole		
Oral	LD50	3,523 mg/kg (rat)
	NOAEL-Werte	250 mg/kg (rat)
Dermal	LD50	2,000 mg/kg (rabbit)

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Inhalative	LC50/4h	29,000 mg/m3 (rat)
	LC50/4 h	6.35-6.7 mg/l (rat)
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/m³ (rat)
	LC50/48h	>100 mg/l (daphnia magna)
64-17-5 ethanol		
Oral	LD50	10,470 mg/kg (rat) (OECD 401)
	NOAEL-Werte	>3,000 mg/kg (rat) (OECD 451)
Dermal	LD50	>2,000 mg/kg (rabbit) (OECD 402)
Inhalative	LC50/4h	20,000 mg/m3 (rat)
	LC50/4 h	120 mg/l (rat) (OECD 403)
	LC50/48h	5,012 mg/l (ceriodaphnia Dubai)
		12,340 mg/l (daphnia magna)
		8,150 mg/l (Leuciscus idus)

· 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 (carcinogenity, 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.

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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)
	8,300 mg/l (lepomis macrochirus)
	7,500 mg/l (selenastrum 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 (selenastrum capricornutum)
NOELR/28d	2,212 mg/l (daphnia magna)

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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)
NOEC/21d	23 mg/l (daphnia magna)
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.)
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)
reaction mass of ethylbenzole and xylole	
LC50/24h	1 mg/l (daphnia magna)
EC50/48h	3.2-9.5 mg/l (daphnia magna)
NOEC	16 mg/l (BES)

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	1.3 mg/l (Oncorhynchus mykiss)
NOELR/72h	0.44 mg/l (green alge)
NOELR/28d	16 mg/l (bacteria)
EC50/72h	2.2 mg/l (selenastrum capricornutum)
LC50/96h	2.6 mg/l (Oncorhynchus mykiss)
	8.9-16.4 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)
64-17-5 ethanol	
LC50/24h	11,200 mg/l (Salmo gairdneri)
EC50/48h	9,268-14,221 mg/l (daphnia magna)
	12,900 mg/l (Selenastrum capricornutum) (OECD 201)
EC0	6,500 mg/l (pseudomonas putida)
	5,000 mg/l (scenedesmus quadricauda)
EC10	11.5 mg/l (CHV)
EC50/72h	275 mg/l (CHV) (OECD 201)
LC50/96h	13,000 mg/l (Oncorhynchus mykiss) (OECD 203)
	15,300 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: Do not allow product to reach ground water, water course or sewage system.
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Water hazard class 1 (German Regulation) (Self-assessment): slightly 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.

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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)

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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: Disposal must be made according to official regulations.
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.

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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**: Warning: Gases.
· Hazard identification number (Kemler code): -
· EMS Number: F-D,S-U
· Stowage Code: SW1 Protected from sources of heat.
SW2 Clear of living quarters.

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· 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.
· 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

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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 1 (Self-assessment): slightly hazardous for water.
· VOC EU	724.6 g/l
· **15.2 Chemical safety assessment:**	A Chemical Safety Assessment has not been carried out.

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* **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.
H304 May be fatal if swallowed and enters airways.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H335 May cause respiratory irritation.
H336 May cause drowsiness or dizziness.
H351 Suspected of causing cancer.
H373 May cause damage to organs through prolonged or repeated exposure.

· Recommended restriction of use
refer to Technical Data Sheet (TDS)

· Department issuing SDS:
Laboratory

· Contact:
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 1A: Flammable gases – Category 1A
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
Acute Tox. 4: Acute toxicity - dermal – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
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
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
Asp. Tox. 1: Aspiration hazard – Category 1

· * Data compared to the previous version altered.
Adaptation in accordance with REACH directive 1907/2006/EC