Safety data sheet
according to 1907/2006/EC, Article 31

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

· **1.1 Product identifier**
· Trade name: **Lettering Colour Thinner**

· Article number: 11415
· UFI: MK84-N0G0-700E-5R6R
· **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 Thinner, Diluent

· **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

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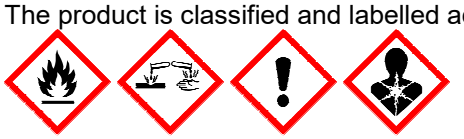
SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 3	H226	Flammable liquid and vapour.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Dam. 1	H318	Causes serious eye damage.
STOT SE 3	H335-H336	May cause respiratory irritation. May cause drowsiness or dizziness.
STOT RE 2	H373	May cause damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.
Asp. Tox. 1	H304	May be fatal if swallowed and enters airways.
Aquatic Chronic 3	H412	Harmful to aquatic life with long lasting effects.

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



GHS02 GHS05 GHS07 GHS08

· Signal word Danger

· Hazard-determining components of labelling: xylene (mix)
butanol
Solvent naphtha (petroleum), light arom.
Naphtha (petroleum), hydrotreated heavy
n-butyl acetate

· Hazard statements H226 Flammable liquid and vapour.

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	H315	Causes skin irritation.
	H318	Causes serious eye damage.
	H335-H336	May cause respiratory irritation. May cause drowsiness or dizziness.
	H373	May cause damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.
	H304	May be fatal if swallowed and enters airways.
	H412	Harmful to aquatic life with long lasting effects.
· 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.
	P261	Avoid breathing vapours.
	P273	Avoid release to the environment.
	P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
	P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
	P302+P352	IF ON SKIN: Wash with plenty of water.
	P304+P312	IF INHALED: Call a POISON CENTER/doctor if you feel unwell.
	P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
	P403+P233	Store in a well-ventilated place. Keep container tightly closed.
	P405	Store locked up.
	P501	Dispose of contents/container in accordance with local/ regional/national/international regulations.

· **2.3 Other hazards**
· Results of PBT and vPvB assessment
· PBT: Not applicable.
· vPvB: Not applicable.

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SECTION 3: Composition/information on ingredients

· **3.2 Chemical characterisation: Mixtures**
· Description: Mixture of substances listed below with nonhazardous additions.

· Dangerous components:

CAS: 1330-20-7 EINECS: 215-535-7 Index number: 601-022-00-9 Reg.nr.: 01-2119555267-33	xylene (mix) 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 Aquatic Chronic 3, H412	25-50%
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	12.5-25%

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CAS: 64742-48-9 EC number: 927-241-2 Reg.nr.: 01-2119471843-32	Naphtha (petroleum), hydrotreated heavy Flam. Liq. 3, H226 Asp. Tox. 1, H304 STOT SE 3, H336 Aquatic Chronic 3, H412	12.5-25%
CAS: 64742-95-6 EC number: 918-668-5 Index number: 649-356-00-4 Reg.nr.: 01-2119455851-35	Solvent naphtha (petroleum), light arom. Flam. Liq. 3, H226 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 STOT SE 3, H335-H336	12.5-25%
CAS: 78-83-1 EINECS: 201-148-0 Index number: 603-108-00-1 Reg.nr.: 01-2119484609-23	butanol Flam. Liq. 3, H226 Eye Dam. 1, H318 Skin Irrit. 2, H315; STOT SE 3, H335-H336	1-5%
CAS: 71-36-3 EINECS: 200-751-6 Index number: 603-004-00-6 Reg.nr.: 01-2119484630-38	butanol Flam. Liq. 3, H226 Eye Dam. 1, H318 Acute Tox. 4, H302; Skin Irrit. 2, H315; STOT SE 3, H335-H336	1-5%

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

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SECTION 4: First aid measures

· **4.1 Description of first aid measures**

· General information: Immediately remove any clothing soiled by the product.

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

· After skin contact: Immediately wash with water and soap and rinse thoroughly.
If skin irritation continues, consult a doctor.

· After eye contact: Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

· After swallowing: Do not induce vomiting; call for medical help immediately.

· Information for doctor: 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.
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.

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

Headache
Dizziness
Dizziness
Gastric or intestinal disorders
Nausea

· **4.3 Indication of any immediate medical attention and special treatment needed** No further relevant information available.

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

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· **5.2 Special hazards arising from the substance or mixture** 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.
Wear fully protective suit.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.
· **6.2 Environmental precautions:** Do not allow to penetrate the ground/soil.
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:** Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Ensure adequate ventilation.
· **6.4 Reference to other sections** See Section 13 for disposal information.

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SECTION 7: Handling and storage

· **7.1 Precautions for safe handling** Keep receptacles tightly sealed.
Ensure good ventilation/exhaustion at the workplace.
· Information about fire - and explosion protection: Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

· **7.2 Conditions for safe storage, including any incompatibilities**
· Storage:
· Requirements to be met by storerooms and receptacles: Store in a cool location.
· Information about storage in one common storage facility: Store away from oxidising agents.
· Further information about storage conditions: Keep container tightly sealed.
Protect from heat and direct sunlight.
· Storage class: 3
· **7.3 Specific end use(s)** No further relevant information available.

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SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**
· Additional information about design of technical facilities: No further data; see item 7.

· Ingredients with limit values that require monitoring at the workplace:	
1330-20-7 xylene (mix)	
WEL	Short-term value: 441 mg/m³, 100 ppm Long-term value: 220 mg/m³, 50 ppm Sk; BMGV
123-86-4 n-butyl acetate	
WEL	Short-term value: 966 mg/m³, 200 ppm Long-term value: 724 mg/m³, 150 ppm

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78-83-1 butanol	
WEL	Short-term value: 231 mg/m³, 75 ppm Long-term value: 154 mg/m³, 50 ppm
71-36-3 butanol	
WEL	Short-term value: 154 mg/m³, 50 ppm Sk

· DNELs

1330-20-7 xylene (mix)		
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 mg/m³ Air (ARB)
		174 mg/m³ Air (BEV)
	DNEL (Langzeit-wiederholt)	77 mg/m³ Air (ARB)
		14.8 mg/m³ 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/m³ Air (ARB)
		860 mg/m³ Air (BEV)
	DNEL (Langzeit-wiederholt)	480 mg/m³ Air (ARB)
		102.34 mg/m³ Air (BEV)
64742-48-9 Naphtha (petroleum), hydrotreated heavy		
Oral	DNEL (Langzeit-wiederholt)	300 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	300 mg/kg bw/day (ARB)
		300 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	1,500 mg/m³ Air (ARB)
		900 mg/m³ Air (BEV)
64742-95-6 Solvent naphtha (petroleum), light arom.		
Oral	DNEL (Langzeit-wiederholt)	11 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	25 mg/kg bw/day (ARB)
		11 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	150 mg/m³ Air (ARB)
		32 mg/m³ Air (BEV)
78-83-1 butanol		
Oral	DNEL (Langzeit-wiederholt)	25 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	310 mg/m³ Air (ARB)
		55 mg/m³ Air (BEV)
71-36-3 butanol		
Oral	DNEL (Langzeit-wiederholt)	3.125 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	3,125 mg/kg bw/day (BEV)
Inhalative	DNEL (Langzeit-wiederholt)	310 mg/m³ Air (ARB)
		55 mg/m³ Air (BEV)

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· PNECs

1330-20-7 xylene (mix)	
PNEC (wässrig)	6.58 mg/l (KA)
	0.327 mg/l (MW)
	0.327 mg/l (SW)
	0.327 mg/l (WAS)
PNEC (fest)	2.31 mg/kg Trockengew (BO)
	12.46 mg/kg Trockengew (MWS)
	12.46 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)
78-83-1 butanol	
PNEC (wässrig)	10 mg/l (KA)
	0.04 mg/l (MW)
	0.4 mg/l (SW)
	11 mg/l (WAS)
PNEC (fest)	0.0699 mg/kg Trockengew (BO)
	0.152 mg/kg Trockengew (MWS)
	1.52 mg/kg Trockengew (SWS)
71-36-3 butanol	
PNEC (wässrig)	2,476 mg/l (KA)
	0.008 mg/l (MW)
	0.082 mg/l (SW)
	2.25 mg/l (WAS)
PNEC (fest)	0.015 mg/kg Trockengew (BO)
	0.018 mg/kg Trockengew (MWS)
	0.178 mg/kg Trockengew (SWS)

· Ingredients with biological limit values:

1330-20-7 xylene (mix)	
BMGV	650 mmol/mol creatinine Medium: urine Sampling time: post shift Parameter: methyl hippuric acid

· 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.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.

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Do not eat, drink, smoke or sniff while working.
Do not inhale gases / fumes / aerosols.
Use skin protection cream for skin protection.
Clean skin thoroughly immediately after handling the product.

· Respiratory protection: Use suitable respiratory protective device in case of insufficient ventilation.
Filter AX

· Protection of hands:

Protective gloves

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

· Material of gloves Fluorocarbon rubber (Viton)
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.

· 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 ≤ 6, 480 min

· For the permanent contact gloves made of the following materials are suitable: Fluorocarbon rubber (Viton)
Vitoject (KCL, Art_No. 890)

· As protection from splashes gloves made of the following materials are suitable: Fluorocarbon rubber (Viton)
Vitoject (KCL, Art_No. 890)

· Not suitable are gloves made of the following materials:
Natural rubber, NR
Chloroprene rubber, CR
Nitrile rubber, NBR
Leather gloves
Strong material gloves

· Eye protection:

Tightly sealed goggles

· Body protection: Solvent resistant protective clothing

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· General Information	
· Appearance:	
Form:	Fluid
Colour:	Clear
· Odour:	Fruit-like
· pH-value:	Not applicable
· Change in condition	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	116 °C
· Flash point:	30 °C
· Ignition temperature:	370 °C
· Auto-ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Explosion limits:	
Lower:	0.8 Vol %
Upper:	10.4 Vol %
· Vapour pressure at 20 °C:	10.7 hPa
· Density at 20 °C:	0.86 g/cm³
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 40 °C:	20.5 mm²/s
· Solvent content:	
Organic solvents:	100.0 %
· **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** Reacts with strong oxidising agents.
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomised.
· **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.

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SECTION 11: Toxicological information

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

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· LD/LC50 values relevant for classification:

1330-20-7 xylene (mix)		
Oral	LD50	4,300 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rbt)
Inhalative	LC50/4h	29,000 mg/m3 (rat)
	LC50/4 h	21.7 mg/l (rat)
	LC50/48h	86 mg/l (Leuciscus idus)
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)
64742-48-9 Naphtha (petroleum), hydrotreated heavy		
Oral	LD50	>5,000 mg/kg (rat) (OECD 401)
Dermal	LD50	>5,000 mg/kg (rabbit) (OECD 402)
Inhalative	LC50/4h	>4.951 mg/m3 (rat) (OECD403)
64742-95-6 Solvent naphtha (petroleum), light arom.		
Oral	LD50	3,592 mg/kg (rat)
Dermal	LD50	>3,160 mg/kg (rabbit)
		>2,000 mg/kg (rat)
Inhalative	LC50/4 h	mg/l (rat)
78-83-1 butanol		
Oral	LD50	2,460 mg/kg (rat)
Dermal	LD50	3,400 mg/kg (rbt)
71-36-3 butanol		
Oral	LD50	3,430 mg/kg (rabbit) (OECD 402)
		2,292 mg/kg (rat) (OECD 401)
Dermal	LD50	3,400 mg/kg (rbt)
Inhalative	LC50/4h	17.76 mg/m3 (rat)
	LC50/4 h	8,000 mg/l (rat)

· Primary irritant effect:
· Skin corrosion/irritation — Causes skin irritation.
· Serious eye damage/irritation — Causes serious eye damage.
· Respiratory or skin sensitisation — Based on available data, the classification criteria are not met.
· Additional toxicological information:
· 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 respiratory irritation. May cause drowsiness or dizziness.
· STOT-repeated exposure — May cause damage to the central nervous system through prolonged or repeated exposure. Route of exposure: Inhalation.
· Aspiration hazard — May be fatal if swallowed and enters airways.

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SECTION 12: Ecological information

· **12.1 Toxicity**

· Aquatic toxicity:	
1330-20-7 xylene (mix)	
EC50/24h	>175 mg/l (bacteria)
	165 mg/l (daphnia magna)
EC50	10 mg/l (bacteria)
IC50	96 mg/l (BES)
	1 mg/l (daphnia magna)
LC50	2 mg/l (piscis)
LC50/24h	32 mg/l (lepomis macrochirus)
IC50/72h	2.2 mg/l (green alge)
	3.3 mg/l (Pseudokirchneriella subcapitata)
EC50/48h	8 mg/l (daphnia magna)
NOEC	0.96-1.17 mg/l (daphnia magna)
	>1.3 mg/l (Oncorhynchus mykiss)
	0.44 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
EC50/72h	4.7 mg/l (Pseudokirchneriella subcapitata)
	2.2 mg/l (selenastrum capricornutum) (OECD 201)
LC50/96h	16.9 mg/l (carassius auratus)
	1.57 mg/l (Cyprinus carpio)
	3.77-13.5 mg/l (piscis)
	20.9 mg/l (lepomis macrochirus)
	7.6 mg/l (Oncorhynchus mykiss)
	26.7 mg/l (pimephales promelas)
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)
64742-48-9 Naphtha (petroleum), hydrotreated heavy	
EL50/48h	22-46 mg/l (daphnia magna)
EL50/72h	>1,000 mg/l (Pseudokirchneriella subcapitata)

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LL50/96h	10-30 mg/l (Oncorhynchus mykiss)
NOELR/72h	<1 mg/l (Pseudokirchneriella subcapitata)
64742-95-6 Solvent naphtha (petroleum), light arom.	
EC50	<10 mg/l (daphnia magna)
IC50	<10 mg/l (daphnia magna)
LC50	<10 mg/l (green alge)
	>1-<10 mg/l (piscis)
EL50/48h	3.2 mg/l (ceriodaphnia Dubai)
	3.2 mg/l (daphnia magna)
EL50/72h	2.6-2.9 mg/l (Pseudokirchneriella subcapitata)
	2.9 mg/l (selenastrum capricornutum)
LL50/96h	9.2 mg/l (Oncorhynchus mykiss)
NOELR/72h	1 mg/l (Pseudokirchneriella subcapitata)
EC50/48h	3.2 mg/l (daphnia magna)
EC50/72h	2.9 mg/l (Pseudokirchneriella subcapitata)
LC50/96h	9.2 mg/l (Oncorhynchus mykiss)
78-83-1 butanol	
EC10/18h	280 mg/l (pseudomonas putida)
EC50/48h	1,100 mg/l (daphnia magna)
ErC50/72h	1,799 mg/l (Pseudokirchneriella subcapitata)
NOEC/21d	20 mg/l (daphnia magna)
EC50/72h	2,300 mg/l (Scenedesmus subspicatus)
LC50/96h	1,430 mg/l (Pimephales promelas)
71-36-3 butanol	
EC50/96h	225 mg/l (Pseudokirchneriella subcapitata) (OECD 201)
EC50	4,400 mg/l (pseudomonas putida)
IC50/72h	>500 mg/l (Desmodesmus subspicatus)
NOEC/21d	4.1 mg/l (daphnia magna)
EC50/48h	1,328 mg/l (daphnia magna) (OECD 202)
EC50/72h	8,500 mg/l (green alge)
LC50/96h	1,200 mg/l (Leuciscus idus)
	1,376 mg/l (pimephales promelas) (OECD 203)
	>500 mg/l (Scenedesmus subspicatus)

· **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.
· Ecotoxical effects:
· Remark: Toxic for fish
· Additional ecological information:
· General notes: Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
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.

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· **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.

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

* **SECTION 14: Transport information**

· **14.1 UN-Number**
· ADR, IMDG, IATA: UN1993

· **14.2 UN proper shipping name**
· ADR: 1993 FLAMMABLE LIQUID, N.O.S. (Naphtha (petroleum), hydrodesulfurized heavy, BUTYL ACETATES)
· IMDG, IATA: FLAMMABLE LIQUID, N.O.S. (Naphtha (petroleum), hydrodesulfurized heavy, BUTYL ACETATES)

· **14.3 Transport hazard class(es)**

· ADR

· Class: 3 (F1) Flammable liquids.
· Label: 3

· IMDG, IATA

· Class: 3 Flammable liquids.
· Label: 3

· **14.4 Packing group**
· ADR, IMDG, IATA: III

· **14.5 Environmental hazards:** Product contains environmentally hazardous substances:
· Marine pollutant: No

· **14.6 Special precautions for user** Warning: Flammable liquids.
· Hazard identification number (Kemler code): 30
· EMS Number: F-E,S-D
· Stowage Category: A

· **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	
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· IMDG	
· Limited quantities (LQ)	5L
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· UN "Model Regulation":	UN 1993 FLAMMABLE LIQUID, N.O.S. (NAPHTHA (PETROLEUM), HYDRODESULFURIZED HEAVY, BUTYL ACETATES), 3, III

*

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	P5c FLAMMABLE LIQUIDS
· Qualifying quantity (tonnes) for the application of lower-tier requirements	5,000 t
· Qualifying quantity (tonnes) for the application of upper-tier requirements	50,000 t
· National regulations:	
· Information about limitation of use:	Employment restrictions concerning pregnant and lactating women must be observed. Employment restrictions concerning juveniles must be observed.
· Waterhazard class:	Water hazard class 2 (Self-assessment): hazardous for water.
· VOC EU	860.0 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	H226 Flammable liquid and vapour. H302 Harmful if swallowed. H304 May be fatal if swallowed and enters airways. H312 Harmful in contact with skin. H315 Causes skin irritation. H318 Causes serious eye damage. H319 Causes serious eye irritation. H332 Harmful if inhaled. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H373 May cause damage to organs through prolonged or repeated exposure. H411 Toxic to aquatic life with long lasting effects. H412 Harmful to aquatic life with long lasting effects.
· Recommended restriction of use	refer to Technical Data Sheet (TDS)

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· 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 relatif au transport international 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. Liq. 3: Flammable liquids – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Eye Irrit. 2: Serious eye damage/eye irritation – 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
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

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