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

Printing date 24.07.2018 Version number 9 Revision: 24.07.2018

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

· **1.1 Product identifier**
· Trade name: **Darkener Super**

· Article number: 10940, 10941, 10939, 10943, 10944
· **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 Protective impregnation

· **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

Flam. Liq. 3 H226 Flammable liquid and vapour.


GHS08 health hazard

Asp. Tox. 1 H304 May be fatal if swallowed and enters airways.


GHS09 environment

Aquatic Chronic 2 H411 Toxic 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 GHS08 GHS09

· Signal word Danger

· Hazard-determining components of labelling: Hydrocarbons, C10-C12, Isoalkanes, <2% aromatics

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2,2,4,6,6-pentamethylheptan
Naphtha (petroleum), heavy alkylate
C11-15-Isoalkanes

· Hazard statements
H226 Flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H411 Toxic 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 label before use.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260 Do not breathe mist/vapours/spray.
P273 Avoid release to the environment.
P280 Wear protective gloves.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P331 Do NOT induce vomiting.
P302+P352 IF ON SKIN: Wash with plenty of water.
P403+P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· Additional information: EUH066 Repeated exposure may cause skin dryness or cracking.

· **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:

EC number: 923-037-2 Reg.nr.: 01-2119471991-29-xxxx	Hydrocarbons, C10-C12, Isoalkanes, <2% aromatics Flam. Liq. 3, H226 Asp. Tox. 1, H304 Aquatic Chronic 2, H411	25-50%
CAS: 13475-82-6 EINECS: 236-757-0 Reg.nr.: 01-2119490725-29	2,2,4,6,6-pentamethylheptan Flam. Liq. 3, H226 Asp. Tox. 1, H304 Aquatic Chronic 4, H413	25-50%
CAS: 67-56-1 EINECS: 200-659-6 Index number: 603-001-00-X Reg.nr.: 01-2119433307-44	methanol Flam. Liq. 2, H225 Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 STOT SE 1, H370	<1%

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

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· After eye contact: Rinse opened eye for several minutes under running water. Then consult a doctor.

· After swallowing: If symptoms persist consult doctor.

· **4.2 Most important symptoms and effects, both acute and delayed**
Breathing difficulty
Headache
Dizziness
Dizziness
Nausea
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.

· 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.

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

· **5.3 Advice for firefighters**

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

· 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.

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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 contaminated material as waste according to item 13.
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** Store in cool, dry place in tightly closed receptacles.
Keep away from heat and direct sunlight.
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).
Use only in well ventilated areas.
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 only in the original receptacle.
Prevent any seepage into the ground.

· Information about storage in one common storage facility: Store away from oxidising agents.
Store away from foodstuffs.

· Further information about storage conditions: Store receptacle in a well ventilated area.
Keep container tightly sealed.

· **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:	
67-56-1 methanol	
WEL	Short-term value: 333 mg/m³, 250 ppm Long-term value: 266 mg/m³, 200 ppm Sk

· 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.
Apply solvent resistant skin cream before starting work.
Use skin protection cream for skin protection.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing

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Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.

· Respiratory protection: Filter AX
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.

Protective gloves

Skin protection agent recommendation for preventive skin shelter without use of protective gloves:
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:
FRAPANTOL (http://www.stoko.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 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).
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 Fluorocarbon rubber (Viton)
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 ≤ 6, 480 min
The exact break trough 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:
Fluorocarbon rubber (Viton)
Vitoject (KCL, Art_No. 890)
Nitrile rubber, NBR

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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: 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:	Fluid
Colour:	Colourless
· Odour:	Characteristic
· pH-value:	Not applicable
· Change in condition	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	180 °C
· Flash point:	> 40 °C
· Ignition temperature:	240 °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:	0.6 Vol %
Upper:	7 Vol %
· Vapour pressure at 20 °C:	1 hPa
· Density at 20 °C:	0.85 g/cm³
· Solubility in / Miscibility with water:	Not miscible or difficult to mix.
· Viscosity:	
Dynamic:	Not determined.
Kinematic at 20 °C:	11 s (DIN 53211/4)
· Solvent content:	
Organic solvents:	59.7 %
Solids content:	29.8 %
· **9.2 Other information**	No further relevant information available.

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SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.

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· **10.2 Chemical stability**
· Thermal decomposition / conditions to be avoided: No decomposition if used and stored according to specifications.
· **10.3 Possibility of hazardous reactions** Reacts with strong oxidising agents.
Forms flammable gases/fumes.
· **10.4 Conditions to avoid** No further relevant information available.
· **10.5 Incompatible materials:** No further relevant information available.
· **10.6 Hazardous decomposition products:** Carbon monoxide and carbon dioxide

*
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:

Hydrocarbons, C10-C12, Isoalkanes, <2% aromatics		
Oral	LD50	>5,000 mg/kg (rat)
Inhalative	LC50/8h	>5 mg/l (rat)
13475-82-6 2,2,4,6,6-pentamethylheptan		
Oral	LD50	>5,000 mg/kg (rat)
Inhalative	LC50/8h	>5 ppm (rat)

· Primary irritant effect:
· Skin corrosion/irritation Based on available data, the classification criteria are not met.
· Serious eye damage/irritation Based on available data, the classification criteria are not met.
· 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 Based on available data, the classification criteria are not met.
· STOT-repeated exposure Based on available data, the classification criteria are not met.
· Aspiration hazard May be fatal if swallowed and enters airways.

*
SECTION 12: Ecological information

· **12.1 Toxicity**

· Aquatic toxicity:

Hydrocarbons, C10-C12, Isoalkanes, <2% aromatics	
EL0/48h	1,000 mg/l (daphnia magna)
EL0/72h	1,000 mg/l (Pseudokirchneriella subcapitata)
LL0/96h	1,000 mg/l (Oncorhynchus mykiss)
NOELR/72h	1,000 mg/l (Pseudokirchneriella subcapitata)
NOELR/21d	<1 mg/l (daphnia magna)
13475-82-6 2,2,4,6,6-pentamethylheptan	
IC50/72h	>1,000 mg/l (Pseudokirchneriella subcapitata)
EC50/48h	>1,000 mg/l (daphnia magna)
LC50/96h	>1,000 mg/l (Oncorhynchus mykiss)

· **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.

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· Additional ecological information:
· General notes: 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.

* **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	
20 00 00	MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS
20 01 00	separately collected fractions (except 15 01)
20 01 13*	solvents

· Uncleaned packaging:
· Recommendation: Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
· Recommended cleansing agents: Alcohol
acetone

* **SECTION 14: Transport information**

· **14.1 UN-Number**
· ADR, IMDG, IATA UN3295

· **14.2 UN proper shipping name**
· ADR 3295 HYDROCARBONS, LIQUID, N.O.S., ENVIRONMENTALLY HAZARDOUS
· IMDG HYDROCARBONS, LIQUID, N.O.S., MARINE POLLUTANT
· IATA HYDROCARBONS, LIQUID, N.O.S.

· **14.3 Transport hazard class(es)**

· ADR

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

· IMDG

· Class 3 Flammable liquids.

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· Label	3
· 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:	Symbol (fish and tree)
· Special marking (ADR):	Symbol (fish and tree)
· **14.6 Special precautions for user**	Warning: Flammable liquids.
· Danger code (Kemler):	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.
· Transport/Additional information:	
· ADR	
· 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
· Transport category	3
· Tunnel restriction code	D/E
· 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 3295 HYDROCARBONS, LIQUID, N.O.S., 3, III, ENVIRONMENTALLY HAZARDOUS

*

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	E2 Hazardous to the Aquatic Environment P5c FLAMMABLE LIQUIDS
· Qualifying quantity (tonnes) for the application of lower-tier requirements	200 t
· Qualifying quantity (tonnes) for the application of upper-tier requirements	500 t

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· REGULATION (EC) No 1907/2006 ANNEX XVII: Conditions of restriction: 3, 40

· 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 504.3 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
H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H301 Toxic if swallowed.
H304 May be fatal if swallowed and enters airways.
H311 Toxic in contact with skin.
H331 Toxic if inhaled.
H370 Causes damage to organs.
H411 Toxic to aquatic life with long lasting effects.
H413 May cause long lasting harmful effects to aquatic life.

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

· Department issuing SDS: Laboratory
· Contact: Dieter Zimmermann
· 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)
ICAO: International Civil Aviation Organisation
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)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 3: Acute toxicity – Category 3
STOT SE 1: Specific target organ toxicity (single exposure) – Category 1
Asp. Tox. 1: Aspiration hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 4: Hazardous to the aquatic environment - long-term aquatic hazard – Category 4

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