

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

Product identifier

- Trade name: **Darkener Plus**
- Article number: 10991, 10992
- Relevant identified uses of the substance or mixture and uses advised against
- Application of the substance / the preparation: Protective impregnation












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
- Information department: Laboratory
- 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.

2 Composition/information on ingredients

- Description: Mixture of the substances listed below with nonhazardous additions.

Dangerous components:

CAS: 64742-48-9 EINECS: 265-150-3 Index number: 649-327-00-6	Naphtha (petroleum), hydrotreated heavy  Xn R65 R10-66-67  H304;  H336; H227	25-50%
CAS: 107-98-2 EINECS: 203-539-1 Index number: 603-064-00-3	1-methoxy-2-propanol R10-67  H226;  H336	25-50%
CAS: 34396-03-7	Trimethoxy (2,4,4-trimethylpentyl)silan R10-52/53  H226; H402; H412	<12.5%
CAS: 67-56-1 EINECS: 200-659-6 Index number: 603-001-00-X	methanol  T R23/24/25-39/23/24/25;  F R11  H225;  H301; H311; H331;  H370	<1%

- Additional information: For the wording of the listed risk phrases refer to section 16.

3 Hazards identification

Classification of the substance or mixture



GHS02 Flame

H226 Flammable liquid and vapour.



GHS08 Health hazard

H304 May be fatal if swallowed and enters airways.



GHS07

H336 May cause drowsiness or dizziness.

H333 May be harmful if inhaled.

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· Classification according to Directive 67/548/EEC or Directive 1999/45/EC



Harmful

Harmful: may cause lung damage if swallowed.

Flammable. Repeated exposure may cause skin dryness or cracking.

· Information concerning particular hazards for human and environment:

The product has to be labelled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version. Contact with skin and inhalation of aerosols/ vapours of the preparation should be avoided.

Vapours of the product are heavier than air and may accumulate on the ground, in mines, drains or cellars with higher concentration. At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.

· Classification system:

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

· **Label elements**

· Hazard-determining components of labelling:

Naphtha (petroleum), hydrotreated heavy

· Labelling according to EU guidelines:

The product has been classified and marked in accordance with directives on hazardous materials.

· Code letter and hazard designation of product:



Xn Harmful

· Hazard-determining components of labelling:

Naphtha (petroleum), hydrotreated heavy

· Risk phrases:

Flammable.
Harmful: may cause lung damage if swallowed.
Repeated exposure may cause skin dryness or cracking

· Safety phrases:

Keep out of the reach of children.
Do not breathe fumes
Avoid contact with skin and eyes.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.
Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point
Wear suitable protective clothing, gloves and eye/face protection.
In case of insufficient ventilation, wear suitable respiratory equipment.
If swallowed, seek medical advice immediately and show this container or label.
Use only in well-ventilated areas.

· **Classification system:**
· NFPA ratings (scale 0 - 4)



· HMIS-ratings (scale 0 - 4)



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

4 First aid measures

· **Description of first aid measures**

- General information: Immediately remove any clothing soiled by the product. Take affected persons out into the fresh air. Position and transport stably on side.
- 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; immediately call for medical help. Drink copious amounts of water and provide fresh air. Immediately call a doctor.
- 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.
- Most important symptoms and effects, both acute and delayed: Breathing difficulty
Headache
Dizziness
Dizziness
Nausea
Profuse sweating
Danger of impaired breathing.
- Danger
- Indication of any immediate medical attention and special treatment needed: If swallowed, gastric irrigation with added, activated carbon.

5 Firefighting measures

- **Extinguishing media**
- Suitable extinguishing agents: CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- For safety reasons unsuitable extinguishing agents: Water with full jet
- **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)
In certain fire conditions, traces of other toxic gases cannot be excluded.
- **Advice for firefighters**
- Protective equipment: Do not inhale explosion gases or combustion gases. Wear fully protective suit. Wear self-contained respiratory protective device.

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· **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.

6 Accidental release measures· **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.

· **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.

· **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.

· **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.

7 Handling and storage· **Handling:**· **Precautions for safe handling**

Store in cool, dry place in tightly closed receptacles.
Keep away from heat and direct sunlight.
Prevent formation of aerosols.
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 protection against explosions and fires:**

Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Protect from heat.

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

Store in a cool location.
Store only in the original receptacle.
Prevent any seepage into the ground.

· **Information about storage in one common storage facility:**

Store away from oxidizing agents.
Store away from foodstuffs.

· **Further information about storage conditions:**

Store in cool, dry conditions in well sealed receptacles.
Keep receptacle tightly sealed.
Protect from heat and direct sunlight.
Store receptacle in a well ventilated area.

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8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· Components with limit values that require monitoring at the workplace:

107-98-2 1-methoxy-2-propanol

REL	Short-term value: 540 mg/m ³ , 150 ppm Long-term value: 360 mg/m ³ , 100 ppm
TLV	Short-term value: 553 mg/m ³ , 150 ppm Long-term value: 369 mg/m ³ , 100 ppm

67-56-1 methanol

PEL	260 mg/m ³ , 200 ppm
REL	Short-term value: 325 mg/m ³ , 250 ppm Long-term value: 260 mg/m ³ , 200 ppm Skin
TLV	Short-term value: 328 mg/m ³ , 250 ppm Long-term value: 262 mg/m ³ , 200 ppm Skin; BEI

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**

· **Personal protective equipment:**

· **General protective and hygienic measures:**

The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Wash hands before breaks and at the end of work.
Immediately remove all soiled and contaminated clothing.
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
Do not eat, drink, smoke or sniff while working.
Apply solvent resistant skin cream before beginning work.
Use skin protection cream for skin protection.

· **Breathing equipment:**

Use suitable respiratory protective device in case of insufficient ventilation.
Filter AX

· **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.
Akemi skin protection agent recommendation for preventive skin shelter without use of protective gloves:
STOKODERM (<http://www.stoko.com>)
Akemi skin protection agent recommendation for preventive skin shelter in application and combination of protective gloves:
STOKO EMULSION (<http://www.stoko.com>)
Akemi skin protection recommendation for skin cleaning after product handling:
FRAPANTOL (<http://www.stoko.com>)
Akemi skin protection agent recommendation for skin aftercare:
STOKO VITAN (<http://www.stoko.com>)



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
The protection gloves to be used have to comply with the specifications of the directive 89/686/EC and the directive derived


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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.

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)
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.
- 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)
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: Leather gloves
Strong gloves
- Eye protection:  Tightly sealed goggles
- Body protection: Protective work clothing

9 Physical and chemical properties

· Information on basic physical and chemical properties

· General Information

· Appearance:

Form: Fluid
Color: Colorless
Odor: Characteristic

· pH-value: Not applicable

· Change in condition

Melting point/Melting range: Undetermined.
Boiling point/Boiling range: 180°C (356°F)

· Flash point: > 40°C (> 104°F)

· Ignition temperature: 240°C (464°F)

· Auto igniting: Product is not selfigniting.

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· <u>Danger of explosion:</u>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <u>Explosion limits:</u>	
<u>Lower:</u>	0.6 Vol %
<u>Upper:</u>	7.0 Vol %
· <u>Vapor pressure at 20°C (68°F):</u>	12 hPa (9 mm Hg)
· <u>Density at 20°C (68°F):</u>	0.85 g/cm ³ (7.093 lbs/gal)
· <u>Solubility in / Miscibility with Water:</u>	Not miscible or difficult to mix.
· <u>Viscosity:</u>	
<u>Dynamic:</u>	Not determined.
<u>Kinematic at 20°C (68°F):</u>	11 s (DIN 53211/4)
· <u>Solvent content:</u>	
<u>Organic solvents:</u>	60.0 %

* **10 Stability and reactivity**

- **Reactivity**
- Chemical stability
- Thermal decomposition / conditions to be avoided:
 - No decomposition if used according to specifications.
 - No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions**
 - Reacts with strong oxidizing agents.
 - Forms flammable gases / fumes.
- **Hazardous decomposition products:**
 - Carbon monoxide and carbon dioxide

* **11 Toxicological information**

- **Information on toxicological effects**
- Acute toxicity:

· <u>LD/LC50 values that are relevant for classification:</u>		
64742-48-9 Naphtha (petroleum), hydrotreated heavy		
Oral	LD50	>5000 mg/kg (rat)
Dermal	LD50	>3000 mg/kg (rabbit)
Inhalative	LC50	>12 mg/l (rat)

- Primary irritant effect:
- on the skin:
 - No irritant effect.
- on the eye:
 - No irritating effect.
- Sensitization:
 - No sensitizing effects known.
- Additional toxicological information:
 - The product shows the following dangers according to internally approved calculation methods for preparations:

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*** 12 Ecological information**

· Toxicity

· Aquatic toxicity:

64742-48-9 Naphtha (petroleum), hydrotreated heavy

EC50	> 1000 mg/l (green alge) >1-<10 mg/l (bacteria) > 1000 mg/l (daphnia magna)
LC50	> 1000 mg/l (piscis)
LL50/96h	51 mg/l (rainbow trout)

· Ecotoxicological effects:

· Remark: Harmful to fish

· 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 (Self-assessment): slightly hazardous for water
Harmful to aquatic organisms

· Results of PBT and vPvB assessment

· PBT: Not applicable.

· vPvB: Not applicable.

*** 13 Disposal considerations**

· Waste treatment methods

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

· Uncleaned packagings:

· Recommendation: Empty contaminated packagings thoroughly. They can be recycled after thorough and proper cleaning.

· Recommended cleansing agent: Alcohol
acetone

*** 14 Transport information**

· DOT regulations:

· Hazard class: 3

· Identification number: UN3295

· Proper shipping name (technical name): HYDROCARBONS, LIQUID, N.O.S.

· Land transport ADR/RID (cross-border):

· ADR/RID class: 3 (F1) Flammable liquids

· UN-Number: 3295

· Packaging group: III

· UN proper shipping name: 3295 HYDROCARBONS, LIQUID, N.O.S.

· Maritime transport IMDG:

· IMDG Class: 3

· UN Number: 3295

· EMS Number: F-E,S-D

· Marine pollutant: No

· Proper shipping name: HYDROCARBONS, LIQUID, N.O.S.

· Air transport ICAO-TI and IATA-DGR:

· ICAO/IATA Class: 3

· UN/ID Number: 3295

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USA

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- **Propper shipping name:** HYDROCARBONS, LIQUID, N.O.S.
- **UN "Model Regulation":** UN3295, HYDROCARBONS, LIQUID, N.O.S., 3, III
- **Special precautions for user** Warning: Flammable liquids

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- Sara

· **Section 355 (extremely hazardous substances):**
None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**
67-56-1 | methanol

· **TSCA (Toxic Substances Control Act):**
All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenity categories**

· **EPA (Environmental Protection Agency)**
71-43-2 | benzene | A

· **IARC (International Agency for Research on Cancer)**
71-43-2 | benzene | 1

· **NTP (National Toxicology Program)**
71-43-2 | benzene | K

· **TLV (Threshold Limit Value established by ACGIH)**
71-43-2 | benzene | A1

· **MAK (German Maximum Workplace Concentration)**
71-43-2 | benzene | 1

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
71-43-2 | benzene

· **OSHA-Ca (Occupational Safety & Health Administration)**
71-43-2 | benzene

· **Hazard-determining components of labelling:** Naphtha (petroleum), hydrotreated heavy

· **Product related hazard informations:** The product has been classified and marked in accordance with directives on hazardous materials.

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· Hazard symbols:

Xn Harmful

· Hazard-determining components of labelling:

Naphtha (petroleum), hydrotreated heavy

· Risk phrases:

Flammable.
Harmful: may cause lung damage if swallowed.
Repeated exposure may cause skin dryness or cracking

· Safety phrases:

Keep out of the reach of children.
Do not breathe fumes
Avoid contact with skin and eyes.
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
After contact with skin, take off immediately all contaminated clothing, and wash immediately with plenty of water and soap.
Do not empty into drains, dispose of this material and its container at hazardous or special waste collection point
Wear suitable protective clothing, gloves and eye/face protection.
In case of insufficient ventilation, wear suitable respiratory equipment.
If swallowed, seek medical advice immediately and show this container or label.
Use only in well-ventilated areas.

· National regulations:

· Information about limitation of use: Employment restrictions concerning young persons must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.

· Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.

· VOC USA 504.2 g/l / 4.21 lb/gl

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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.

· **Department issuing MSDS:**

Laboratory

· **Contact:**

Dieter Zimmermann

· Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
ACGIH: American Conference of Governmental Industrial Hygienists
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent