

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/09/2015

Reviewed on 12/09/2015

## 1 Identification

### · Product identifier

· Trade name: **Transformer**

· Article number: 12049, 12050, 12051, 12052, 12053, 12054

· Application of the substance / the mixture 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 Hazard(s) identification

### · Classification of the substance or mixture



GHS02 Flame

Flam. Liq. 3 H226 Flammable liquid and vapor.



GHS07

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

### · Label elements

#### · GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

#### · Hazard pictograms



GHS02 GHS07

#### · Signal word

Warning

#### · Hazard-determining components of labeling:

#### · Hazard statements

ethyl acetate  
H226 Flammable liquid and vapor.  
H319 Causes serious eye irritation.  
H336 May cause drowsiness or dizziness.

#### · Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P261 Avoid breathing vapours.

P280 Wear protective gloves / eye protection.

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.

P302+P352 IF ON SKIN: Wash with plenty of water.

P405 Store locked up.

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P403+P235  
P501

Store in a well-ventilated place. Keep cool.  
Dispose of contents/container in accordance with local/  
regional/national/international regulations.

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



Health = 1  
Fire = 3  
Reactivity = 0

· HMS-ratings (scale 0 - 4)



Health = 1  
Fire = 3  
Reactivity = 0

**Other hazards**

- Results of PBT and vPvB assessment
- PBT: Not applicable.
- vPvB: Not applicable.

### 3 Composition/information on ingredients

**Chemical characterization: Mixtures**

· Description: Mixture: consisting of the following components.

· Dangerous components:

CAS: 141-78-6 EINECS: 205-500-4 Index number: 607-022-00-5	ethyl acetate ⚠ Flam. Liq. 2, H225 ⚠ Eye Irrit. 2, H319; STOT SE 3, H336	50-100%
CAS: 34396-03-7 EINECS: 251-995-5	Trimethoxy (2,4,4-trimethylpentyl) silane ⚠ Flam. Liq. 3, H226 ⚠ Acute Tox. 4, H332	1-5%
CAS: 3648-18-8 EINECS: 222-883-3	Diocetyl tin dilaurate ⚠ Repr. 2, H361; STOT RE 1, H372	<1%
CAS: 67-56-1 EINECS: 200-659-6 Index number: 603-001-00-X	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 risk phrases refer to section 16.

### 4 First-aid measures

**Description of first aid measures**

- General information: Take affected persons out of danger area and lay down. Immediately remove any clothing soiled by the product.
- After inhalation: Supply fresh air; consult doctor in case of complaints. In case of unconsciousness place patient stably in side position for transportation.
- After skin contact: Immediately rinse with water. 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: Rinse out mouth and then drink plenty of water. If symptoms persist consult doctor.
- Information for doctor:
- Most important symptoms and effects, both acute and delayed No further relevant information available.

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

**5 Fire-fighting 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** In case of fire, the following can be released:  
Carbon monoxide (CO)
- **Advice for firefighters**
- Protective equipment: Mount respiratory protective device.  
Wear fully protective suit.
- **Additional information** Cool endangered receptacles with water spray.  
Collect contaminated fire fighting water separately. It must not enter the sewage system.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.  
Keep away from ignition sources
- **Environmental precautions:** Do not allow product to reach sewage system or any water course.  
Prevent seepage into sewage system, workpits and cellars.  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:** Dispose contaminated material as waste according to item 13.  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
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 Keep receptacles tightly sealed.  
Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).  
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.
- **Conditions for safe storage, including any incompatibilities**
- Storage:
- Requirements to be met by storerooms and receptacles: Store in a cool location.

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- Information about storage in one common storage facility: Store away from foodstuffs.
- Further information about storage conditions: Protect from frost.  
Keep receptacle tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.
- Storage class: 3
- Specific end use(s) No further relevant information available.

### 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:

#### 141-78-6 ethyl acetate

PEL	Long-term value: 1400 mg/m <sup>3</sup> , 400 ppm
REL	Long-term value: 1400 mg/m <sup>3</sup> , 400 ppm
TLV	Long-term value: 1440 mg/m <sup>3</sup> , 400 ppm

#### 67-56-1 methanol

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

· Ingredients with biological limit values:

#### 67-56-1 methanol

BEI	15 mg/L Medium: urine Time: end of shift Parameter: Methanol (background, nonspecific)
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· Additional information: The lists that were valid during the creation were used as basis.

#### · **Exposure controls**

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

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.

· Breathing equipment:

Short term filter device:  
Filter A/P2  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

· 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

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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>).

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

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

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:

Butyl rubber, BR

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

Butoject (KCL, Art\_No. 897, 898)

Butyl rubber, BR

· Not suitable are gloves made of the following materials:

Strong gloves  
Synthetic gloves

· Eye protection:



Tightly sealed goggles

· Body protection:

Solvent resistant protective clothing

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

· General Information

· Appearance:

Form:

Fluid

Color:

Opaque

· Odor:

Specific type

· Odor threshold:

Not determined.

· pH-value:

Not determined.

· Change in condition

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

76 °C (169 °F)

· Flash point:

> 23 °C (> 73 °F)

· Flammability (solid, gaseous):

Not applicable.

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· <u>Ignition temperature:</u>	460 °C (860 °F)
· <u>Decomposition temperature:</u>	Not determined.
· <u>Auto igniting:</u>	Product is not selfigniting.
· <u>Danger of explosion:</u>	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· <u>Explosion limits:</u>	
Lower:	2.1 Vol %
Upper:	11.5 Vol %
· <u>Vapor pressure at 20 °C (68 °F):</u>	97 hPa (73 mm Hg)
· <u>Density at 20 °C (68 °F):</u>	0.96 g/cm <sup>3</sup> (8.011 lbs/gal)
· <u>Specific gravity:</u>	Not determined.
· <u>Relative density</u>	Not determined.
· <u>Vapor density</u>	Not determined.
· <u>Evaporation rate</u>	Not determined.
· <u>Solubility in / Miscibility with Water:</u>	Not miscible or difficult to mix.
· <u>Partition coefficient (n-octanol/water):</u>	Not determined.
· <u>Viscosity:</u>	
Dynamic:	Not determined.
Kinematic:	Not determined.
· <u>Solvent content:</u>	
Organic solvents:	60.2 %
Solids content:	39.5 %
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

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

## 11 Toxicological information

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

· LD/LC50 values that are relevant for classification:

### ATE (Acute Toxicity Estimates)

Oral	LD50	5970 mg/kg
Inhalative	LC50/4 h	240 mg/l (rat)

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<b>141-78-6 ethyl acetate</b>		
Oral	LD50	4100 mg/kg (mouse) 5600 mg/kg (rat) 4935 mg/kg (rbt)
Dermal	LD50	> 18000 mg/kg (rabbit)
Inhalative	LC50	58 mg/l (rat)
	LC50/4 h	1600 mg/l (rat)
	LC50/1h	200 mg/l (rat)
	LC50/8h	5.86 mg/l (rat)
	LC50/48h	333 mg/l (Leuciscus idus)

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

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)  
None of the ingredients is listed.

· NTP (National Toxicology Program)  
None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)  
None of the ingredients is listed.

## 12 Ecological information

· **Toxicity**

· Aquatic toxicity:  
**141-78-6 ethyl acetate**

EC10/18h	2900 mg/l (pseudomonas putida)
EC50/48h	717 mg/l (daphnia magna) (DIN 38412) 3300 mg/l (Desmodesmus subspicatus)
IC50/48h	3300 mg/l (Scenedesmus subspicatus)
NOEC/21d	2.4 mg/l (daphnia magna)
EC50/48h	3300 mg/l (Scenedesmus subspicatus)
LC50/96h	230 mg/l (Pimephales promelas)

- **Persistence and degradability** No further relevant information available.
- **Behavior in environmental systems:**
- Bioaccumulative potential No further relevant information available.
- Mobility in soil No further relevant information available.
- **Additional ecological information:**
- General notes: Water hazard class 2 (Self-assessment): hazardous for water
- **Results of PBT and vPvB assessment**
- PBT: Not applicable.
- vPvB: Not applicable.
- **Other adverse effects** No further relevant information available.

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### 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: Disposal must be made according to official regulations.

### 14 Transport information

· **UN-Number**  
 · DOT, ADR, IMDG, IATA UN1993

· **UN proper shipping name**  
 · DOT Flammable liquids, n.o.s. (Ethyl acetate)  
 · ADR 1993 Flammable liquids, n.o.s., special provision 640E (Ethyl acetate)  
 · IMDG FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE)  
 · IATA Flammable liquid, n.o.s. (Ethyl acetate)

· **Transport hazard class(es)**

· DOT



· Class 3 Flammable liquids  
 · Label 3

· ADR



· Class 3 (F1) Flammable liquids  
 · Label 3

· IMDG, IATA



· Class 3 Flammable liquids  
 · Label 3

· **Packing group**  
 · DOT, ADR, IMDG, IATA III

· **Environmental hazards:**  
 · Marine pollutant: No

· **Special precautions for user** Warning: Flammable liquids  
 · Danger code (Kemler): 30  
 · EMS Number: F-E,S-E  
 · Stowage Category A

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

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<ul style="list-style-type: none"> <li>· <b>Transport/Additional information:</b></li> <li>· DOT</li> <li>· <u>Quantity limitations</u></li> <li>· Remarks:</li> </ul>	<p>to handle similar to packing group II</p> <p>On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L</p> <p>to handle similar to packing group II</p>
<ul style="list-style-type: none"> <li>· ADR</li> <li>· <u>Excepted quantities (EQ)</u></li> <li>· Remarks:</li> </ul>	<p>Code: E1</p> <p>Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</p> <p>to handle similar to packing group II</p>
<ul style="list-style-type: none"> <li>· IMDG</li> <li>· <u>Limited quantities (LQ)</u></li> <li>· <u>Excepted quantities (EQ)</u></li> <li>· Remarks:</li> </ul>	<p>5L</p> <p>Code: E1</p> <p>Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml</p> <p>to handle similar to packing group II</p>
<ul style="list-style-type: none"> <li>· IATA</li> <li>· Remarks:</li> </ul>	<p>to handle similar to packing group II</p>
<ul style="list-style-type: none"> <li>· <b>UN "Model Regulation":</b></li> </ul>	<p>UN 1993 FLAMMABLE LIQUIDS, N.O.S., SPECIAL PROVISION 640E (ETHYL ACETATE), 3, III</p>

### \* 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:

67-56-1 | methanol

· Carcinogenicity categories

· EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· MAK (German Maximum Workplace Concentration)

None of the ingredients is listed.

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· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

· GHS label elements

The product is classified and labeled according to the Globally Harmonized System (GHS).

· Hazard pictograms

GHS02 GHS07

· Signal word

Warning

· Hazard-determining components of labeling:

ethyl acetate

· Hazard statements

H226 Flammable liquid and vapor.

H319 Causes serious eye irritation.

H336 May cause drowsiness or dizziness.

· Precautionary statements

P210

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

P261

Avoid breathing vapours.

P280

Wear protective gloves / eye protection.

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.

P302+P352

IF ON SKIN: Wash with plenty of water.

P405

Store locked up.

P403+P235

Store in a well-ventilated place. Keep cool.

P501

Dispose of contents/container in accordance with local/regional/national/international regulations.

· National regulations:· Information about limitation of use: Employment restrictions concerning young persons must be observed.· Water hazard class:

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

· VOC USA

577.5 g/l / 4.82 lb/gal

· **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 SDS:**

Laboratory

· **Contact:**

Dieter Zimmermann

Elke Hake

Fon ++49 (0)911 64296-59

@mail E.Hake@akemi.de

· Date of preparation / last revision

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· 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)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

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)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

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LD50: Lethal dose, 50 percent  
PBT: Persistent, Bioaccumulative and Toxic  
vPvB: very Persistent and very Bioaccumulative  
NIOSH: National Institute for Occupational Safety  
OSHA: Occupational Safety & Health  
TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
BEL: Biological Exposure Limit  
Flam. Liq. 2: Flammable liquids, Hazard Category 2  
Flam. Liq. 3: Flammable liquids, Hazard Category 3  
Acute Tox. 3: Acute toxicity, Hazard Category 3  
Acute Tox. 4: Acute toxicity, Hazard Category 4  
Eye Irrit. 2: Serious eye damage/eye irritation, Hazard Category 2  
Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A  
Repr. 2: Reproductive toxicity, Hazard Category 2  
STOT SE 1: Specific target organ toxicity - Single exposure, Hazard Category 1  
STOT SE 3: Specific target organ toxicity - Single exposure, Hazard Category 3  
STOT RE 1: Specific target organ toxicity - Repeated exposure, Hazard Category 1

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