

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.05.2018

Version number 5

Revision: 02.05.2018

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

1.1 Product identifier

- Trade name: **Transformer**
- Article number: 12042, 12043, 12044

1.2 Relevant identified uses of the substance or mixture and uses advised against

- Application of the substance / the mixture Protective impregnation

No further relevant information available.

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

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.



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.

STOT SE 3 H336 May cause drowsiness or dizziness.

2.2 Label elements

- Labelling according to Regulation (EC) No 1272/2008
- Hazard pictograms

The product is classified and labelled according to the CLP regulation.



GHS02 GHS07

Signal word

Warning

Hazard-determining components of labelling:

Hazard statements

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

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- Precautionary statements

P101	P102	P103	P210	P261	P280	P302+P352	P304+P312	P305+P351+P338	P403+P235	P501
- 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: consisting of the following components.

· Dangerous components:

CAS: 141-78-6 EINECS: 205-500-4 Index number: 607-022-00-5 Reg.nr.: 01-2119475103-46 02-2119752482-38-0000	ethyl acetate  Flam. Liq. 2, H225  Eye Irrit. 2, H319; STOT SE 3, H336	50-100%
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 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.

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- **4.2 Most important symptoms and effects, both acute and delayed** No further relevant information available.
- **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
- **5.2 Special hazards arising from the substance or mixture** In case of fire, the following can be released:
Carbon monoxide (CO)
- **5.3 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.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures** Wear protective equipment. Keep unprotected persons away.
Keep away from ignition sources.
- **6.2 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.
- **6.3 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.
- **6.4 Reference to other sections** See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling** Keep 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 fire - and explosion protection:** Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

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· **7.2 Conditions for safe storage, including any incompatibilities**

- Storage:
- Requirements to be met by storerooms and receptacles: Store in a cool location.
- Information about storage in one common storage facility: Store away from foodstuffs.
- Further information about storage conditions: Protect from frost.
Keep container tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
- Storage class: 3
- **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:

141-78-6 ethyl acetate

WEL	Short-term value: 400 ppm Long-term value: 200 ppm
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67-56-1 methanol

WEL	Short-term value: 333 mg/m ³ , 250 ppm Long-term value: 266 mg/m ³ , 200 ppm Sk
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- DNELs

141-78-6 ethyl acetate

Oral	DNEL (Langzeit-wiederholt)	4.5 mg/kg bw/day (BEV)
Derma	DNEL (Langzeit-wiederholt)	63 mg/kg bw/day (ARB) 37 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	1,468 mg/m ³ Air (ARB) 734 mg/m ³ Air (BEV)
	DNEL (Langzeit-wiederholt)	734 mg/m ³ Air (ARB) 367 mg/m ³ Air (BEV)

- PNECs

141-78-6 ethyl acetate

PNEC (wässrig)	650 mg/l (KA) 0.024 mg/l (MW) 0.24 mg/l (SW) 1.65 mg/l (WAS)
PNEC (fest)	0.148 mg/kg Trockengew (BO) 0.115 mg/kg Trockengew (MWS) 1.15 mg/kg Trockengew (SWS)

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

· **8.2 Exposure controls**

- Personal protective equipment:
- General protective and hygienic measures: Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing

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· Respiratory protection:

Wash hands before breaks and at the end of work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

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 self-contained respiratory protective device.

· Protection of hands:



Protective gloves

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

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 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

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 material gloves

Synthetic rubber 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:	Opaque
· Odour:	Specific type
· Odour threshold:	Not determined.

· pH-value: Not determined.

· Change in condition

Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	76 °C

· Flash point: > 23 °C

· Flammability (solid, gas): Not applicable.

· Ignition temperature: 460 °C

· Decomposition temperature: Not determined.

· 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:	2.1 Vol %
Upper:	11.5 Vol %

· Vapour pressure at 20 °C: 97 hPa

· Density at 20 °C: 0.96 g/cm³

· Relative density: Not determined.

· Vapour density: Not determined.

· Evaporation rate: Not determined.

· Solubility in / Miscibility with water:

Not miscible or difficult to mix.

· Partition coefficient: n-octanol/water: Not determined.

· Viscosity:

Dynamic:	Not determined.
Kinematic:	Not determined.

· Solvent content:

Organic solvents: 60.2 %

Solids content: 39.5 %

· **9.2 Other information** No further relevant information available.

SECTION 10: Stability and reactivity

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

· 10.2 Chemical stability

· Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

· 10.3 Possibility of hazardous reactions

No dangerous reactions known.

· 10.4 Conditions to avoid

No further relevant information available.

· 10.5 Incompatible materials:

No further relevant information available.

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- **10.6 Hazardous decomposition products:** No dangerous decomposition products known.

SECTION 11: Toxicological information

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

- LD/LC50 values relevant for classification:

141-78-6 ethyl acetate

Oral	LD50	4,100 mg/kg (mouse)
		5,620 mg/kg (rat)
		4,934 mg/kg (rbt)
	NOAEL-Werte	900 mg/kg (rat)
Dermal	LD50	>18,000 mg/kg (rabbit)
Inhalative	LC50	58 mg/l (rat)
	LC50/4 h	1,600 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:
- Skin corrosion/irritation Based on available data, the classification criteria are not met.
- Serious eye damage/irritation Causes serious eye irritation.
- Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
- Germ cell mutagenicity Based on available data, the classification criteria are not met.
- Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- STOT-single exposure May cause drowsiness or dizziness.
- STOT-repeated exposure Based on available data, the classification criteria are not met.
- Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**

- Aquatic toxicity:

141-78-6 ethyl acetate

EC50/96h	220 mg/l (Pimephales promelas)
EC10/18h	2,900 mg/l (pseudomonas putida)
EC50/48h	610 mg/l (daphnia magna) (DIN 38412)
	5,600 mg/l (Desmodesmus subspicatus)
IC50/48h	3,300 mg/l (Scenedesmus subspicatus)
LC 0	29.3 mg/l (rat)
NOELR/72h	>100 mg/l (Desmodesmus subspicatus)
NOEC/21d	2.4 mg/l (daphnia magna)
EC10	2,900 mg/l (pseudomonas putida)
EC50/48h	3,300 mg/l (Scenedesmus subspicatus)
LC50/96h	230 mg/l (Oncorhynchus mykiss)
	230 mg/l (Pimephales promelas)

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.

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- **12.4 Mobility in soil** No further relevant information available.
- Additional ecological information:
- General notes: 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.
- **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: 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. (ETHYL ACETATE)
- IMDG, IATA FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE)
- **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:**
- Marine pollutant: No
- **14.6 Special precautions for user** Warning: Flammable liquids.
- Danger code (Kemler): 30
- EMS Number: F-E, S-E
- 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

· 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 1993 FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE), 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

· 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.

· Waterhazard class:

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

· VOC EU

577.9 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.
 H301 Toxic if swallowed.
 H311 Toxic in contact with skin.
 H319 Causes serious eye irritation.
 H331 Toxic if inhaled.
 H336 May cause drowsiness or dizziness.
 H370 Causes damage to organs.

· Department issuing SDS:

Laboratory

· Contact:

Dieter Zimmermann

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Trade name: Transformer**Abbreviations and acronyms:**

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ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 3: Acute toxicity – Category 3
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
STOT SE 1: Specific target organ toxicity (single exposure) – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

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