

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 09.05.2014

Revision: 09.05.2014

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

· Product identifier

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

· 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
- 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 Hazards identification

· 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.

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



Xi; Irritant

R36: Irritating to eyes.



F; Highly flammable

R11: Highly flammable.

R66-67: Repeated exposure may cause skin dryness or cracking. Vapours may cause drowsiness and dizziness.

- 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.
At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.
Has a narcotizing effect.

- Classification system: The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

· Label elements

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

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

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· Hazard pictograms

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.

· 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.
 P280 Wear protective gloves/protective clothing/eye protection/face protection.
 P261 Avoid breathing vapours.
 P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P312 Call a POISON CENTER or doctor/physician if you feel unwell.
 P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 P302+P352 IF ON SKIN: Wash with plenty of soap and water.
 P403+P235 Store in a well-ventilated place. Keep cool.
 P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

EUH066 Repeated exposure may cause skin dryness or cracking.

· Additional information:· **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 Reg.nr.: 01-2119475103-46	ethyl acetate Xi R36; F R11 R66-67 Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	50-100%
CAS: 3648-18-8 EINECS: 222-883-3 Reg.nr.: 01-2119979527-19-0000	Diocetylzinndilaurat T R48/25; Xn R63 R52/53 Repr. 2, H361; STOT RE 1, H372; Aquatic Chronic 3, H412	<1%
CAS: 67-56-1 EINECS: 200-659-6 Index number: 603-001-00-X Reg.nr.: 01-2119433307-44	methanol T R23/24/25-39/23/24/25; F R11 Flam. Liq. 2, H225; Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331; STOT SE 1, H370	<1%

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

5 Firefighting measures

- **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
- **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.

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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 fire - and explosion protection: 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.
- 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
- **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

· 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

· DNELs**141-78-6 ethyl acetate**

Oral	DNEL (Langzeit-wiederholt)	4.5 mg/kg bw/day (BEV)
Dermal	DNEL (Langzeit-wiederholt)	63 mg/kg bw/day (ARB)
		37 mg/kg bw/day (BEV)
Inhalative	DNEL (Kurzzeit-akut)	1468 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 (fest)	0.22 mg/kg Trockengew (BO)
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PNEC (wässrig)	0.034 mg/kg Trockengew (MWS) 0.34 mg/kg Trockengew (SWS) 650 mg/l (KA) 0.026 mg/l (MW) 0.26 mg/l (SW)
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· Additional information: The lists valid during the making 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.

· Respiratory protection:

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.

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>).

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 through 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

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· 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

9 Physical and chemical properties**· 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/Melting range: Undetermined.

Boiling point/Boiling range: 76 °C

· Flash point: > 23 °C

· Flammability (solid, gaseous): Not applicable.

· Ignition temperature: 460 °C

· Decomposition temperature: Not determined.

· Self-igniting: Product is not selfigniting.

· Danger of explosion: 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 %

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

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10 Stability and reactivity

- **Reactivity**
- 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 relevant for classification:**141-78-6 ethyl acetate**

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)
	LC50/1h	200 mg/l (rat)
	LC50/4 h	1600 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 the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:
Irritant

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)
	3.3 mg/l (Scenedesmus subspicatus)
IC50/48h	3300 mg/l (Scenedesmus subspicatus)
LC50/96h	230 mg/l (Pimephales promelas)
NOEC/21d	2.4 mg/l (daphnia magna)

· **Persistence and degradability** No further relevant information available.

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- **Behaviour 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 (German Regulation) (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.

13 Disposal considerations

- **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.

14 Transport information

- | | |
|---|---|
| UN-Number | UN1993 |
| <u>ADR, IMDG, IATA</u> | |
| UN proper shipping name | 1993 FLAMMABLE LIQUID, N.O.S., special provision 640E (ETHYL ACETATE) |
| <u>ADR</u> | |
| <u>IMDG, IATA</u> | FLAMMABLE LIQUID, N.O.S. (ETHYL ACETATE) |
| Transport hazard class(es) | |
| <u>ADR</u> | |
|  | |
| <u>Class</u> | 3 (F1) Flammable liquids. |
| <u>Label</u> | 3 |
| <u>IMDG, IATA</u> | |
|  | |
| <u>Class</u> | 3 Flammable liquids. |
| <u>Label</u> | 3 |
| Packing group | III |
| <u>ADR, IMDG, IATA</u> | |
| Environmental hazards: | |
| <u>Marine pollutant:</u> | No |
| Special precautions for user | Warning: Flammable liquids. |
| <u>Danger code (Kemler):</u> | 30 |
| <u>EMS Number:</u> | F-E,S-E |

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· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	5L
· Transport category	3
· Tunnel restriction code	D/E
· UN "Model Regulation":	UN1993, FLAMMABLE LIQUID, N.O.S., special provision 640E (ETHYL ACETATE), 3, III

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- 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 577.5 g/l
- **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.

· <u>Relevant phrases</u>	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.
	H361	Suspected of damaging fertility or the unborn child.
	H370	Causes damage to organs.
	H372	Causes damage to organs through prolonged or repeated exposure.
	H412	Harmful to aquatic life with long lasting effects.
	R11	Highly flammable.
	R23/24/25	Toxic by inhalation, in contact with skin and if swallowed.
	R36	Irritating to eyes.
	R39/23/24/25	Toxic: danger of very serious irreversible effects through inhalation, in contact with skin and if swallowed.
	R48/25	Toxic: danger of serious damage to health by prolonged exposure if swallowed.
	R52/53	Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
	R63	Possible risk of harm to the unborn child.
	R66	Repeated exposure may cause skin dryness or cracking.
	R67	Vapours may cause drowsiness and dizziness.
· Department issuing MSDS:	Laboratory	
· Contact:	Dieter Zimmermann	
	Elke Hake	
	Fon ++49 (0)911 64296-59	
	@mail E.Hake@akemi.de	

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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 Harmonized 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

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