Safety Data Sheet
acc. to OSHA HCS

Printing date 10/16/2017 Reviewed on 10/16/2017

* **1 Identification**

· **Product identifier**
· Trade name: **Transformer**

· Article number: 12042, 12043, 12044
· Application of the substance / the mixture: Protective impregnation

· **Details of the supplier of the safety data sheet**
· Manufacturer/Supplier: InnoChem LLC
4030 Pleasantdale Road
Suite F
Doraville, GA 30340
Phone: 770-409-8789
Fax: 770-409-9096
e-mail info@innochemllc.com

· Information department: Laboratory
· Emergency telephone number: Refer to Manufacturer / Supplier

* **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: 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.
P302+P352	If on skin: Wash with plenty of water.
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.
P403+P235	Store in a well-ventilated place. Keep cool.
P501	Dispose of contents/container in accordance with local/ regional/national/international regulations.

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/16/2017 Reviewed on 10/16/2017

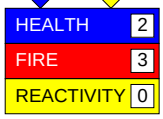
Trade name: Transformer

(Contd. of page 1)

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

Health = 2
Fire = 3
Reactivity = 0

· HMIS-ratings (scale 0 - 4)



Health = 2
Fire = 3
Reactivity = 0

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

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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. 2A, H319; STOT SE 3, H336	50-100%
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 hazard 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 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:

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/16/2017 Reviewed on 10/16/2017

Trade name: Transformer

(Contd. of page 2)

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.

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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.

· **Protective Action Criteria for Chemicals**

· PAC-1:		
141-78-6	ethyl acetate	1,200 ppm
67-56-1	methanol	530 ppm

· PAC-2:		
141-78-6	ethyl acetate	1,700 ppm
67-56-1	methanol	2,100 ppm

· PAC-3:		
141-78-6	ethyl acetate	10000** ppm
67-56-1	methanol	7200* ppm

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

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/16/2017 Reviewed on 10/16/2017

Trade name: Transformer

(Contd. of page 3)

· 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/m³, 400 ppm
REL	Long-term value: 1400 mg/m³, 400 ppm
TLV	Long-term value: 1440 mg/m³, 400 ppm

67-56-1 methanol

PEL	Long-term value: 260 mg/m³, 200 ppm
REL	Short-term value: 325 mg/m³, 250 ppm Long-term value: 260 mg/m³, 200 ppm Skin
TLV	Short-term value: 328 mg/m³, 250 ppm Long-term value: 262 mg/m³, 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)

· 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 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

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/16/2017 Reviewed on 10/16/2017

Trade name: Transformer

(Contd. of page 4)

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).
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

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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 (168.8 °F)
· Flash point:	> 23 °C (>73.4 °F)
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	460 °C (860 °F)
· Decomposition temperature:	Not determined.

(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/16/2017 Reviewed on 10/16/2017

Trade name: Transformer

(Contd. of page 5)

· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product is not explosive. However, formation of explosive air/vapor mixtures are possible.
· Explosion limits:	
Lower:	2.1 Vol %
Upper:	11.5 Vol %
· Vapor pressure at 20 °C (68 °F):	97 hPa (72.8 mm Hg)
· Density at 20 °C (68 °F):	0,96 g/cm³ (8.01 lbs/gal)
· Specific gravity:	Not determined.
· Relative density	Not determined.
· Vapor 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 %
· **Other information**	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.

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11 Toxicological information

· **Information on toxicological effects**

· Acute toxicity:

· LD/LC50 values that are relevant for classification:

ATE (Acute Toxicity Estimate)		
Oral	LD50	6,833 mg/kg (mouse)
Inhalative	LC50/4 h	2,562 mg/l (rat)

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)

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/16/2017 Reviewed on 10/16/2017

Trade name: Transformer

(Contd. of page 6)

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:
· 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	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)

· **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.

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/16/2017 Reviewed on 10/16/2017

Trade name: Transformer

(Contd. of page 7)

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. (Ethyl acetate)
· IMDG, 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.

· **Transport/Additional information:** to handle similar to packing group II

(Contd. on page 9)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/16/2017 Reviewed on 10/16/2017

Trade name: Transformer

(Contd. of page 8)

· DOT	
· Quantity limitations	On passenger aircraft/rail: 60 L On cargo aircraft only: 220 L
· Remarks:	to handle similar to packing group II
· ADR	
· Excepted quantities (EQ)	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· Remarks:	to handle similar to packing group II
· 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
· Remarks:	to handle similar to packing group II
· IATA	
· Remarks:	to handle similar to packing group II
· **UN "Model Regulation":**	UN 1993 FLAMMABLE LIQUIDS, N.O.S. (ETHYL ACETATE), 3, III

* **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):

141-78-6	ethyl acetate
67-56-1	methanol

· TSCA new (21st Century Act) (Substances not 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

· Cancerogenity 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.

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

None of the ingredients is listed.

(Contd. on page 10)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/16/2017 Reviewed on 10/16/2017

Trade name: Transformer

(Contd. of page 9)

· 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.
P302+P352	If on skin: Wash with plenty of water.
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.
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: 577.9 g/l / 4.82 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 SDS:** Laboratory

· **Contact:** Dieter Zimmermann
Elke Hake
Fon ++49 (0)911 64296-59
@mail E.Hake@akemi.de

· Date of preparation / last revision: 10/16/2017 / 2

· 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
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

(Contd. on page 11)

Safety Data Sheet
acc. to OSHA HCS

Printing date 10/16/2017 Reviewed on 10/16/2017

Trade name: Transformer

(Contd. of page 10)

PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Acute Tox. 3: Acute toxicity – Category 3
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A
STOT SE 1: Specific target organ toxicity (single exposure) – Category 1
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3