

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.12.2017

Version number 2

Revision: 15.12.2017

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

- 1.1 Product identifier
- Trade name: **KEMPEROL UP-I Inhibitor**
- 1.2 Relevant identified uses of the substance or mixture and uses advised against
- Application of the substance / the mixture: Additive
- 1.3 Details of the supplier of the safety data sheet
- Manufacturer/Supplier: KEMPER SYSTEM GmbH & Co. KG
Holländische Strasse 32-36
34246 Vellmar
Deutschland / Germany
Telefon: +49 (0)561 / 8295-0
Telefax: +49 (0)561 / 8295-5110
E-Mail: MSDS@KEMPER-SYSTEM.COM
- Further information obtainable from: research & development
- 1.4 Emergency telephone number: Giftinformationszentrum der Länder Rheinland-Pfalz und Hessen
Langenbeckstraße 1; Gebäude 601; 55131 Mainz
Tel. Nr.: +49 (0)6131 / 19 24 0
Universitätsmedizin der Johannes Gutenberg-Universität Mainz

SECTION 2: Hazards identification

- 2.1 Classification of the substance or mixture
- Classification according to Regulation (EC) No 1272/2008

Flam. Liq. 3	H226	Flammable liquid and vapour.
Skin Irrit. 2	H315	Causes skin irritation.
Eye Irrit. 2	H319	Causes serious eye irritation.
Repr. 2	H361d	Suspected of damaging the unborn child.
STOT SE 3	H335	May cause respiratory irritation.
STOT RE 1	H372	Causes damage to the hearing organs through prolonged or repeated exposure.
Asp. Tox. 1	H304	May be fatal if swallowed and enters airways.
Aquatic Chronic 2	H411	Toxic to aquatic life with long lasting effects.

- 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.



- Signal word

Danger

- Hazard-determining components of labelling:
- Hazard statements

styrene
H226 Flammable liquid and vapour.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H361d Suspected of damaging the unborn child.
H335 May cause respiratory irritation.
H372 Causes damage to the hearing organs through prolonged or repeated exposure.
H304 May be fatal if swallowed and enters airways.
H411 Toxic to aquatic life with long lasting effects.

- Precautionary statements

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

- 2.3 Other hazards

- Results of PBT and vPvB assessment
- PBT:

Not applicable.

(Contd. on page 2)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.12.2017

Version number 2

Revision: 15.12.2017

Trade name: **KEMPEROL UP-I Inhibitor**

- vPvB: Not applicable.

(Contd. of page 1)

SECTION 3: Composition/information on ingredients

- 3.2 Chemical characterisation: Mixtures

- Description: Mixture: consisting of the following components.

- Dangerous components:

CAS: 100-42-5 EINECS: 202-851-5 Index number: 601-026-00-0 Reg.nr.: 01-2119457861-32	styrene Flam. Liq. 3, H226; Repr. 2, H361d; STOT RE 1, H372; Asp. Tox. 1, H304; Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2, H319; STOT SE 3, H335; Aquatic Chronic 3, H412	25-50%
CAS: 128-37-0 EINECS: 204-881-4 Reg.nr.: 01-2119565113-46 01-2119555270-46 01-2119480433-40	2,6-di-tert-butyl-p-cresol Aquatic Acute 1, H400; Aquatic Chronic 1, H410	2.5-10%
CAS: 101-02-0 EINECS: 202-908-4 Index number: 015-105-00-7 Reg.nr.: 01-2119511213-58	triphenyl phosphite Aquatic Acute 1, H400; Aquatic Chronic 1, H410; Acute Tox. 4, H302; Acute Tox. 4, H312; Skin Irrit. 2, H315; Eye Irrit. 2, H319	<0.5%

- 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:

Immediately remove any clothing soiled by the product.
Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

Do not leave affected persons unattended.

Personal protection for the First Aider.

Take affected persons out of danger area and lay down.

- After inhalation:

In case of unconsciousness place patient stably in side position for transportation.

Seek medical treatment in case of complaints.

Supply fresh air; consult doctor in case of complaints.

- After skin contact:

Immediately wash with water and soap and rinse thoroughly.

Seek medical treatment in case of complaints.

- After eye contact:

Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

Protect unharmed eye.

- After swallowing:

If symptoms persist consult doctor.

- 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.
Use fire extinguishing methods suitable to surrounding conditions.

- For safety reasons unsuitable extinguishing agents:

Water with full jet

- 5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

- 5.3 Advice for firefighters

- Protective equipment:

Do not inhale explosion gases or combustion gases.

- Additional information

Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Avoid contact with skin and eyes

Keep away from ignition sources.

(Contd. on page 3)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.12.2017

Version number 2

Revision: 15.12.2017

Trade name: **KEMPEROL UP-I Inhibitor**

(Contd. of page 2)

- **6.2 Environmental precautions:** Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.
Prevent from spreading (e.g. by damming-in or oil barriers).
- **6.3 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.
Do not flush with water or aqueous cleansing agents
- **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** Store in cool, dry place in tightly closed receptacles.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
- **Information about fire - and explosion protection:** Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.
- **Information about storage in one common storage facility:** Store away from foodstuffs.
- **Further information about storage conditions:** Store in dry conditions.
Protect from frost.
Recommended storage temperature: 10-30 °C
Keep container tightly sealed.
- **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:

100-42-5 styrene

WEL Short-term value: 1080 mg/m³, 250 ppm
Long-term value: 430 mg/m³, 100 ppm

128-37-0 2,6-di-tert-butyl-p-cresol

WEL Long-term value: 10 mg/m³

- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:** The usual precautionary measures are to be adhered to when handling chemicals.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
- **Respiratory protection:** When used properly and under normal conditions, breathing protection is not required.
Use suitable respiratory protective device in case of insufficient ventilation.
Filter A/P2
Respiratory protection - Gas filters and combination filters according to EN 141
- **Protection of hands:**



Protective gloves

Check protective gloves prior to each use for their proper condition.
Only use chemical-protective gloves with CE-labelling of category III.

(Contd. on page 4)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.12.2017

Version number 2

Revision: 15.12.2017

Trade name: **KEMPEROL UP-I Inhibitor**

(Contd. of page 3)

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

After use of gloves apply skin-cleaning agents and skin cosmetics.

- Material of gloves

Recommended materials:

Butyl rubber, BR

Recommended thickness of the material: ≥ 0.5 mm

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 determined penetration times according to EN 374 part III are not performed under practical conditions. Therefore a maximum wearing time, which corresponds to 50% of the penetration time, is recommended.

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

Nitrile rubber, NBR

Recommended thickness of the material: ≥ 0.1 mm

Penetration time (min.): <10

- Eye protection:



Tightly sealed goggles

- Body protection:

Protective goggles and facial protection - Classification according to EN 166

Protective work clothing

Impervious protective clothing

SECTION 9: Physical and chemical properties

- 9.1 Information on basic physical and chemical properties

- General Information

- Appearance:

Form: Fluid

Colour: According to product specification

- Odour: Characteristic

- Odour threshold: Not determined.

- pH-value: Not determined.

- Change in condition

Melting point/freezing point: Undetermined.

Initial boiling point and boiling range: Undetermined.

- Flash point: 32 °C

- Flammability (solid, gas): Not applicable.

- 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: Not determined.

Upper: Not determined.

- Density at 20 °C: 1.04 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:

VOC (EC) 36.80 %

(Contd. on page 5)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.12.2017

Version number 2

Revision: 15.12.2017

Trade name: **KEMPEROL UP-I Inhibitor**

(Contd. of page 4)

- 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.
- 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:

100-42-5 styrene

Oral	LD50	5,000 mg/kg (rat)
	NOAEL	2,000 mg/kg (rat) (female) 1,000 mg/kg (rat) (male)
Dermal	LD50	>2,000 mg/kg (rat) (OECD 402)
Inhalative	NOAEC	0.21 mg/l (rat) (steam, female. 104 weeks)
	LOAEC	500 ppm (rat) (steam, male, 6 Hours)
	LC50/4 h	11.8 mg/l (rat)

128-37-0 2,6-di-tert-butyl-p-cresol

Oral	LD50	>5,000 mg/kg (rat)
	NOAEL	25 mg/kg (rat) (28 days; 7days per Week)
	NOAEL	100 mg/kg (rat) (male rat) 500 mg/kg (rat) (female rat)
Dermal	LD50	>5,000 mg/kg (rabbit)

101-02-0 triphenyl phosphite

Oral	LD50	1,590 mg/kg (rat)
Dermal	LD50	>2,000 mg/kg (rab)
		1,180 mg/kg (rat)
	LC50	>6.7 mg/l (rat) (1h)

- Primary irritant effect:
- Skin corrosion/irritation Causes skin irritation.
- 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) Repr. 2
- 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 Suspected of damaging the unborn child.
- STOT-single exposure May cause respiratory irritation.
- STOT-repeated exposure Causes damage to the hearing organs through prolonged or repeated exposure.
- Aspiration hazard May be fatal if swallowed and enters airways.

SECTION 12: Ecological information

- 12.1 Toxicity

- Aquatic toxicity:

100-42-5 styrene

NOEC	1.01 mg/kg (daphnia) (21 days, freshwater)
LC50	>1-<10 mg/l (Daphnia magna)
EC50	4.7 mg/l (daphnia) (48 hours, freshwater)

(Contd. on page 6)

EN

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.12.2017

Version number 2

Revision: 15.12.2017

Trade name: KEMPEROL UP-I Inhibitor

(Contd. of page 5)

EC50	4.9 mg/l (ALGAE) (72 hours, freshwater)
EC50	>1-<10 mg/l (Daphnia magna)
LC50	10 mg/l (fish) (96 hours, freshwater)
	4.02 mg/l (Pimephales promelas) (96h)
128-37-0 2,6-di-tert-butyl-p-cresol	
LC0	>0.57 mg/l (PISCIS - Fisch) (96h)
EC50	>10,000 mg/l (Belebtschlamm) (3 Hours)
	0.61 mg/l (Daphnia magna) (48h; OECD 202)
NOEC	316 mg/l (Daphnia magna) (21d; chronic; OECD 202)
IC 50	>0.4 mg/l (ALGAE) (72h)
IC50	>0.4 mg/l (DESMODESMUS SUBSPICATUS) (72h; EU C.3)
101-02-0 triphenyl phosphite	
LC50/96 h	1 mg/l (fish)
EC50	1 mg/l (daphnia) (48h)
EC50	1 mg/l (ALGAE) (72h)

- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** No further relevant information available.
- **12.4 Mobility in soil** No further relevant information available.
- **Ecotoxicological effects:**
- **Remark:** Toxic for fish
- **Additional ecological information:**
- **General notes:** Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
Also poisonous for fish and plankton in water bodies.
Toxic for aquatic organisms
- **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.
- **European waste catalogue**

08 04 09*	waste adhesives and sealants containing organic solvents or other hazardous substances
08 04 10	waste adhesives and sealants other than those mentioned in 08 04 09

- **Uncleaned packaging:**
- **Recommendation:** Disposal must be made according to official regulations.

SECTION 14: Transport information

- **14.1 UN-Number**
 - **ADR, IMDG, IATA** UN1866
 - **14.2 UN proper shipping name**
 - **ADR** 1866 RESIN SOLUTION, ENVIRONMENTALLY HAZARDOUS
 - **IMDG** RESIN SOLUTION (2,6-di-tert-butyl-p-cresol, triphenyl phosphite), MARINE POLLUTANT
 - **IATA** RESIN SOLUTION
 - **14.3 Transport hazard class(es)**
 - **ADR**
-
- **Class** 3 (F1) Flammable liquids.

(Contd. on page 7)

Safety data sheet

according to 1907/2006/EC, Article 31




Printing date 15.12.2017

Version number 2

Revision: 15.12.2017

Trade name: **KEMPEROL UP-I Inhibitor**

(Contd. of page 6)

- Label	3
- IMDG	
 	
- Class	3 Flammable liquids.
- Label	3
- IATA	
	
- Class	3 Flammable liquids.
- Label	3
- 14.4 Packing group	III
- ADR, IMDG, IATA	
- 14.5 Environmental hazards:	Product contains environmentally hazardous substances: 2,6-di-tert-butyl-p-cresol
- Marine pollutant:	Yes
- Special marking (ADR):	Symbol (fish and tree) Symbol (fish and tree)
- 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.
- 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 1866 RESIN SOLUTION, 3, III, ENVIRONMENTALLY HAZARDOUS

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
 - Seveso category
 - Qualifying quantity (tonnes) for the application of lower-tier requirements
 - Qualifying quantity (tonnes) for the application of upper-tier requirements
 - REGULATION (EC) No 1907/2006 ANNEX XVII
 - National regulations:
 - Information about limitation of use:
- None of the ingredients is listed.
E2 Hazardous to the Aquatic Environment
P5c FLAMMABLE LIQUIDS
- 200 t
- 500 t
- Conditions of restriction: 3
- Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
Employment restrictions concerning women of child-bearing age must be observed.

(Contd. on page 8)

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 15.12.2017

Version number 2

Revision: 15.12.2017

Trade name: **KEMPEROL UP-I Inhibitor**

- 15.2 Chemical safety assessment:

A Chemical Safety Assessment has not been carried out.

(Contd. of page 7)

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

H226 Flammable liquid and vapour.
 H302 Harmful if swallowed.
 H304 May be fatal if swallowed and enters airways.
 H312 Harmful in contact with skin.
 H315 Causes skin irritation.
 H319 Causes serious eye irritation.
 H332 Harmful if inhaled.
 H335 May cause respiratory irritation.
 H361d Suspected of damaging the unborn child.
 H372 Causes damage to the hearing organs through prolonged or repeated exposure.
 H400 Very toxic to aquatic life.
 H410 Very toxic to aquatic life with long lasting effects.
 H412 Harmful to aquatic life with long lasting effects.

- Department issuing SDS:

research & development

- Contact:

research & development

- Abbreviations and acronyms:

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 ICAO: International Civil Aviation Organisation
 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)
 VOC: Volatile Organic Compounds (USA, EU)
 LC50: Lethal concentration, 50 percent
 LD50: Lethal dose, 50 percent
 PBT: Persistent, Bioaccumulative and Toxic
 vPvB: very Persistent and very Bioaccumulative
 Flam. Liq. 3: Flammable liquids – Category 3
 Acute Tox. 4: Acute toxicity – Category 4
 Skin Irrit. 2: Skin corrosion/irritation – Category 2
 Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
 Repr. 2: Reproductive toxicity – Category 2
 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
 STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1
 Asp. Tox. 1: Aspiration hazard – Category 1
 Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1
 Aquatic Chronic 1: Hazardous to the aquatic environment - long-term aquatic hazard – Category 1
 Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
 Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

- Sources

Internet:
 - www.echa.com
 - www.baua.de
 - www.gestis.itrust.de (IFA: Institute für Occupational Safety and Health of the German Social Accident Insurance)

- * Data compared to the previous version altered.