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

1.1 Product identifier

HENSOTHERM 310 KS -outdoor-
Article number 310KSA

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

1.2.1 Relevant uses

Fire retardant coating

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company

Rudolf Hensel GmbH
Lauenburger Landstr. 11
21039 Börnsen / GERMANY
Phone +49 (0)40-72 10 62 10
Fax +49 (0)40-72 10 62 52
Homepage www.rudolf-hensel.de
E-mail info@rudolf-hensel.de

Address enquiries to

Technical information info@rudolf-hensel.de

Safety Data Sheet sdb@chemiebuero.de

1.4 Emergency telephone number

Company +49 (0)40-72 10 62 10 (7:00 - 17:00) 0172 4115390 (17:00 - 07:00)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008 [CLP]

Flam. Liq. 3: H226 Flammable liquid and vapour.
Skin Irrit. 2: H315 Causes skin irritation.
Eye Irrit. 2: H319 Causes serious eye irritation.
STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure.
STOT SE 3: H335 May cause respiratory irritation.

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

Flammable - R 10: Flammable.
Xn, Harmful - R 20/21: Harmful by inhalation and in contact with skin.
Xi, Irritant - R 36/37/38: Irritating to eyes, respiratory system and skin.

2.2 Label elements

Labelling according to Regulation (EC) 1272/2008

Hazard pictograms

Signal word	WARNING
Contains:	Ethylbenzene
	Xylene, mixture of isomers
Hazard statements	H226 Flammable liquid and vapour. H315 Causes skin irritation. H319 Causes serious eye irritation. H373 May cause damage to organs through prolonged or repeated exposure. H335 May cause respiratory irritation.
Precautionary statements	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. P260 Do not breathe vapours / spray. P271 Use only outdoors or in a well-ventilated area. P312 Call a POISON CENTER / doctor if you feel unwell. P501 Dispose of contents / container to in accordance with local / regional / national / international regulation.
2004/42/CE	< 500 g/l II A i SB One-pack performance coatings (max. 500 g/l)

2.3 Other hazards

Human health dangers	If swallowed or in the event of vomiting, risk of product entering the lungs.
Environmental hazards	Does not contain any PBT or vPvB substances.
Other hazards	none

SECTION 3: Composition / Information on ingredients

Product-type:

The product is a mixture.

Range [%]	Substance
25 - 30	Xylene, mixture of isomers
	CAS: 1330-20-7, EINECS/ELINCS: 215-535-7, EU-INDEX: 601-022-00-9, ECB-Nr.: 01-2119488216-32-XXXX
	GHS/CLP: Flam. Liq. 3: H226 - Acute Tox. 4: H312 H332 - Skin Irrit. 2: H315 - STOT RE 2: H373 - Asp. Tox. 1: H304 - Eye Irrit. 2: H319 - STOT SE 3: H335
	EEC: Xn, R 10-20/21-36/37/38-65
1 - <10	Ethylbenzene
	CAS: 100-41-4, EINECS/ELINCS: 202-849-4, EU-INDEX: 601-023-00-4
	GHS/CLP: Flam. Liq. 2: H225 - Acute Tox. 4: H332 - Asp. Tox. 1: H304 - STOT RE 2: H373
	EEC: F-Xn, R 11-20-48/20-65

Comment on component parts Substances of Very High Concern - SVHC: substances are not contained or are below 0,1%.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information
Remove contaminated soaked clothing immediately and dispose of safely.

Inhalation
Remove the victim into fresh air and keep him calm.
Supply with medical care.

Skin contact
In case of contact with skin wash off immediately with soap and water.
Consult a doctor if skin irritation persists.

Eye contact
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.

Ingestion
Consult a doctor immediately.
Do not induce vomiting.
Rinse out mouth and give plenty of water to drink.

4.2 Most important symptoms and effects, both acute and delayed

Irritant effects
Vertigo
Dizziness

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media
Water spray jet.
Carbon dioxide.
Foam.
Dry powder.

Extinguishing media that must not be used
Full water jet.

5.2 Special hazards arising from the substance or mixture

In the event of fire the following can be released:
Carbon monoxide (CO)
Nitrogen oxides (NOx).
Phosphorus oxides (POx).

5.3 Advice for firefighters

Use self-contained breathing apparatus.

Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.
Collect contaminated firefighting water separately, must not be discharged into the drains.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Keep away from all sources of ignition.
Ensure adequate ventilation.
Use breathing apparatus if exposed to vapours.
Use personal protective equipment (protective gloves, safety glasses, protective clothing).

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.
In case the product spills into drains/surface waters/groundwater, immediately inform the authorities.

6.3 Methods and material for containment and cleaning up

Take up mechanically.
Take up residues with absorbent material (e.g. sand, sawdust, generalpurpose binder, diatomaceous earth).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Provide suitable vacuuming at the processing machines and in the processing area.
Provide good room ventilation even at ground level (vapours are heavier than air).

Vapours can form an explosive mixture with air.
Take precautionary measures against static discharges.
Keep away from all sources of ignition - Refrain from smoking.
Ignitable mixtures can be formed in the empty container.
Apparates and equipments must be conform in accordance to standard of storage and handling of flammable products.

Do not eat, drink, smoke or take drugs at work.
Remove soiled or soaked clothing immediately.
Clean skin thoroughly after work, apply skin cream.
Use barrier skin cream.

7.2 Conditions for safe storage, including any incompatibilities

Provide solvent-resistant and impermeable floor.
Keep only in original container.
Prevent penetration into the ground.
Provide floor with bunding.

Do not store together with oxidizing agents.

Keep container tightly closed.
Keep container in a well-ventilated place.
Protect from heat/overheating.
Keep in a cool place.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

Range [%]	Substance
25 - 30	Xylene, mixture of isomers
	CAS: 1330-20-7, EINECS/ELINCS: 215-535-7, EU-INDEX: 601-022-00-9, ECB-Nr.: 01-2119488216-32-XXXX
	Long-term exposure: 50 ppm, 220 mg/m³, Sk, BMGV
	Short-term exposure (15-minute): 100 ppm, 441 mg/m³
1 - <10	Ethylbenzene
	CAS: 100-41-4, EINECS/ELINCS: 202-849-4, EU-INDEX: 601-023-00-4
	Long-term exposure: 100 ppm, 441 mg/m³, Sk
	Short-term exposure (15-minute): 125 ppm, 552 mg/m³
1 - < 10	Titanium dioxide
	CAS: 13463-67-7, EINECS/ELINCS: 236-675-5, ECB-Nr.: 01-2119489379-17-XXXX
	Long-term exposure: 4 mg/m³, respirable; total inhalable: TWA=10 mg/m³

Ingredients with occupational exposure limits to be monitored (EU)

Range [%]	Substance / EC LIMIT VALUES
25 - 30	Xylene, mixture of isomers
	CAS: 1330-20-7, EINECS/ELINCS: 215-535-7, EU-INDEX: 601-022-00-9, ECB-Nr.: 01-2119488216-32-XXXX
	Eight hours: 50 ppm, 221 mg/m³, H
	Short-term (15-minute): 100 ppm, 442 mg/m³
1 - <10	Ethylbenzene
	CAS: 100-41-4, EINECS/ELINCS: 202-849-4, EU-INDEX: 601-023-00-4
	Eight hours: 100 ppm, 442 mg/m³, H
	Short-term (15-minute): 200 ppm, 884 mg/m³

DNEL

Range [%]	Substance
25 - 30	Xylene, mixture of isomers, CAS: 1330-20-7
	Industrial, dermal, Long-term - systemic effects: 180 mg/kg bw/d.
	Industrial, inhalative, Long-term - systemic effects: 77 mg/m³.
	Industrial, inhalative, Acute - systemic effects: 289 mg/m³.
	Industrial, inhalative, Acute - local effects: 289 mg/m³.
	general population, inhalative, Long-term - systemic effects: 14,8 mg/m³.
	general population, inhalative, Acute - systemic effects: 174 mg/m³.
	general population, inhalative, Acute - local effects: 174 mg/m³.
	general population, oral, Long-term - systemic effects: 1,6 mg/kg bw/d.
	general population, dermal, Long-term - systemic effects: 108 mg/kg bw/d.

PNEC

Range [%]	Substance
25 - 30	Xylene, mixture of isomers, CAS: 1330-20-7
	soil, 2,31 mg/kg dw.
	sewage treatment plants (STP), 6,58 mg/l.
	sediment, 12,46 mg/kg.
	freshwater, 0,327 mg/l.
	seawater, 0,327 mg/l.

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation.
Eye protection	Safety glasses.
Hand protection	Viton, >480 min (EN 374). The details concerned are recommendations. Please contact the glove supplier for further information.
Skin protection	Solvent-resistant protective clothing.
Other	Avoid contact with eyes and skin. Do not inhale gases/vapours/aerosols. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of these equipments to chemicals should be ascertained with the respective supplier.
Respiratory protection	Breathing apparatus in the event of high concentrations. Short term: filter apparatus, combination filter A-P2.
Thermal hazards	not applicable
Delimitation and monitoring of the environmental exposition	Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	pasty
Color	white
Odor	characteristic
Odour threshold	not determined
pH-value	not applicable
pH-value [1%]	not applicable
Boiling point [°C]	not determined
Flash point [°C]	26
Flammability (solid, gas) [°C]	not determined
Lower explosion limit	not determined
Upper explosion limit	not determined
Oxidizing properties	yes
Vapour pressure/gas pressure [kPa]	not determined
Density [g/ml]	1,25 - 1,35
Bulk density [kg/m³]	not applicable
Solubility in water	soluble
Partition coefficient [n-octanol/water]	not determined
Viscosity	7000 - 13000 mPa.s (20 °C)
Relative vapour density determined in air	not determined
Evaporation speed	not determined
Melting point [°C]	not determined
Autoignition temperature [°C]	not applicable
Decomposition temperature [°C]	not determined

9.2 Other information

none

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

The product is stable under standard conditions.

10.3 Possibility of hazardous reactions

Evolution of flammable mixtures possible in air when heated above flash point and/or during spraying or misting.
Uncleaned empty vessels may contain product gases which can form explosive mixtures with air.
Reactions with oxidizing agents.

10.4 Conditions to avoid

Strong heating.
See SECTION 7

10.5 Incompatible materials

See SECTION 10.3.

10.6 Hazardous decomposition products

No hazardous decomposition products known.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product
ATE-mix, dermal, >2000 mg/kg.
ATE-mix, inhalative, >20 mg/l 4h.
ATE-mix, oral, >2000 mg/kg.

Range [%]	Substance
1 - <10	Ethylbenzene, CAS: 100-41-4
	LD50, oral, Rat: 3500 mg/kg (IUCLID).
	LD50, dermal, Rabbit: 15354 mg/kg (IUCLID).
	LC50, inhalative, Rat: 17,2 mg/l/4h (IUCLID).
25 - 30	Xylene, mixture of isomers, CAS: 1330-20-7
	LD50, dermal, Rabbit: 4300 mg/kg.
	LD50, oral, Rat: 4300 mg/kg.
	LC50, inhalative, Rat: 27 - 47 mg/l (4 h).

Serious eye damage/irritation	not determined
Skin corrosion/irritation	not determined
Respiratory or skin sensitisation	not determined
Specific target organ toxicity — single exposure	not determined
Specific target organ toxicity — repeated exposure	not determined
Mutagenicity	There is no evidence of any mutagenic effects.
Reproduction toxicity	There is no evidence of any reproductive toxicity effects.
Carcinogenicity	There is no evidence of any carcinogenic effects.
General remarks	

The product was classified on the basis of the calculation procedure of the preparation directive.
Toxicological data of complete product are not available.
The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 12: Ecological information

12.1 Toxicity

Range [%]	Substance
1 - <10	Ethylbenzene, CAS: 100-41-4
	LC50, (96h), Oncorhynchus mykiss: 4,2 mg/l (OECD 203).
	EC50, Bacteria: 9,68 mg/l/30 min. (Microtox Test).
	EC50, (48h), Daphnia magna: 2,9 mg/l (ECOTOX Database).
	IC50, (72h), Algae: 4,6 mg/l (IUCLID).
25 - 30	Xylene, mixture of isomers, CAS: 1330-20-7
	LC50, (96h), Pimephales promelas: 13,4 mg/l.
	LC50, (96h), Oncorhynchus mykiss: 14 mg/l.
	LC50, (48h), Leuciscus idus: 86 mg/l.
	EC50, (72h), Selenastrum capricornutum: 2,6 - 7,6 mg/l.
	EC50, (48h), Daphnia magna: 1,0 - 4,7 mg/l.
	EC50, (24h), Daphnia magna: 165 mg/l (OECD 202).
	EC50, Bacteria: 1 - 10 mg/l.

12.2 Persistence and degradability

Behaviour in environment compartments	not determined
Behaviour in sewage plant	not determined
Biological degradability	not determined

12.3 Bioaccumulative potential

Accumulation in organisms is not expected.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

12.6 Other adverse effects

The product was classified on the basis of the calculation procedure of the preparation directive.
Ecological data of complete product are not available.
The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.
The product contains organically bound halogen in accordance with the formulation.
Do not discharge product unmonitored into the environment.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Dispose of as hazardous waste.
Disposal in an incineration plant in accordance with the regulations of the local authorities.

Waste no. (recommended) 080111*

Contaminated packaging

Uncontaminated packaging may be taken for recycling.
Packaging that cannot be cleaned should be disposed of as for product.

Waste no. (recommended) 150110*

SECTION 14: Transport information

14.1 UN number

See SECTION 14.2 in accordance with UN shipping name

14.2 UN proper shipping name

Transport by land according to ADR/RID UN 1263 Paint (No dangerous goods, according ADR 2.2.3.1.5 to max. 450 l) III

- Label

- ADR 1.1.3.6 (8.6) Transport category (tunnel restriction code) 3 (D/E)

Inland navigation (ADN) UN 1263 Paint (No dangerous goods, according ADR 2.2.3.1.5 to max. 450 l) III

- Label

Marine transport in accordance with IMDG NO DANGEROUS GOODS, ACCORDING IMDG 2.3.2.5 TO MAX. 30 L (SEE 5.4.1.5.10) - "TRANSPORT IN COMPLIANCE WITH 2.3.2.5 OF THE IDMG CODE"

Air transport in accordance with IATA UN 1263 Paint 3 III

- Label

14.3 Transport hazard class(es)

See SECTION 14.2 in accordance with UN shipping name

14.4 Packing group

See SECTION 14.2 in accordance with UN shipping name

14.5 Environmental hazards

See SECTION 14.2 in accordance with UN shipping name

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

not determined

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

EEC-REGULATIONS	1967/548 (1999/45); 1991/689 (2001/118); 1999/13; 2004/42; 648/2004; 1907/2006 (Reach); 1272/2008; 75/324/EEC (2008/47/EC); 453/2010/EC
TRANSPORT-REGULATIONS	DOT-Classification, ADR (2015); IMDG-Code (2015, 37. Amdt.); IATA-DGR (2015).
NATIONAL REGULATIONS (GB):	EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4
- Observe employment restrictions for people	Observe employment restrictions for mothers-to-be and nursing mothers. Observe employment restrictions for young people.
- VOC (1999/13/CE)	< 500 g/l

15.2 Chemical safety assessment

not applicable

SECTION 16: Other information

16.1 R-phrases (SECTION 3)

R 11: Highly flammable.
R 20: Harmful by inhalation.
R 10: Flammable.
R 20/21: Harmful by inhalation and in contact with skin.
R 36/37/38: Irritating to eyes, respiratory system and skin.
R 65: Harmful - may cause lung damage if swallowed.

16.2 Hazard statements (SECTION 3)

H335 May cause respiratory irritation.
H319 Causes serious eye irritation.
H315 Causes skin irritation.
H312+H332 Harmful in contact with skin or if inhaled.
H226 Flammable liquid and vapour.
H373 May cause damage to organs through prolonged or repeated exposure.
H304 May be fatal if swallowed and enters airways.
H332 Harmful if inhaled.
H225 Highly flammable liquid and vapour.

16.3 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
CAS = Chemical Abstracts Service
CLP = Classification, Labelling and Packaging
DMEL = Derived Minimum Effect Level
DNEL = Derived No Effect Level
EC50 = Median effective concentration
ECB = European Chemicals Bureau
EEC = European Economic Community
EINECS = European Inventory of Existing Commercial Chemical Substances
ELINCS = European List of Notified Chemical Substances
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
IC50 = Inhibition concentration, 50%
IMDG = International Maritime Code for Dangerous Goods
IUCLID = International Uniform ChemicaL Information Database
LC50 = Lethal concentration, 50%
LD50 = Median lethal dose
MARPOL = International Convention for the Prevention of Marine Pollution from Ships
PBT = Persistent, Bioaccumulative and Toxic substance
PNEC = Predicted No-Effect Concentration
REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
TLV®/TWA = Threshold limit value – time-weighted average
TLV®STEL = Threshold limit value – short-time exposure limit
VOC = Volatile Organic Compounds
vPvB = very Persistent and very Bioaccumulative

16.4 Other information

Classification procedure

Flam. Liq. 3: H226 Flammable liquid and vapour. (On basis of test data)
Skin Irrit. 2: H315 Causes skin irritation. (Calculation method)
Eye Irrit. 2: H319 Causes serious eye irritation. (Calculation method)
STOT RE 2: H373 May cause damage to organs through prolonged or repeated exposure. (Calculation method)
STOT SE 3: H335 May cause respiratory irritation. (Calculation method)

Modified position

none