

Safety Data Sheet

According to 91/155 EEC (2001/58/EG)

Printing date 10.12.2008

Revision: 10.12.2008

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

- **Product details**

- **Trade name:** Auswaschmedium fertig angesetzt

- **Article number:** 10438, 10439

- **Manufacturer/Supplier:**

KENT Stuttgart GmbH
Kesselstraße 46
70327 Stuttgart

Tel.: +49 711 409500

Fax: +49 711 4095050

Web: kent-stuttgart.de

eMail: regina.bubeck@kent-stuttgart.de

- **Further information obtainable from:** Department Laboratory

- **Information in case of emergency:** s.u.

2 Hazards identification

- **Hazard description:**



F Highly flammable

- **Information concerning particular hazards for human and environment:**

R 11 Highly flammable.

- **GHS label elements**



Danger

2.6/2 - Highly flammable liquid and vapour.

- **Prevention:**

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical/ventilating/lighting/ equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wear protective gloves/protective clothing/eye protection/face protection.

- **Response:**

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

In case of fire: Use for extinction: CO₂, powder or water spray.

- **Storage:**

Store in a well-ventilated place. Keep cool.

- **Disposal:**

Dispose of contents/container in accordance with local/regional/national/international regulations.

3 Composition/information on ingredients

- **Chemical characterization**

- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 64-17-5 EINECS: 200-578-6	ethanol	F; R 11 Danger: 2.6/2	50-100%
CAS: 78-93-3 EINECS: 201-159-0	butanone	Xi, F; R 11-36-66-67 Danger: 2.6/2 Warning: 3.3/2A, 3.8/3	< 2.5%

(Contd. on page 2)

Safety Data Sheet

According to 91/155 EEC (2001/58/EG)

Printing date 10.12.2008

Revision: 10.12.2008

Trade name: Auswaschmedium fertig angesetzt

(Contd. of page 1)

· **Additional information:** For the wording of the listed risk phrases refer to section 16.

4 First aid measures

· **General information:**

Take affected persons out of danger area and lay down.
 In case of irregular breathing or respiratory arrest provide artificial respiration.
 Immediately remove any clothing soiled by the product.
 Personal protection for the First Aider.

· **After inhalation:**



Supply fresh air and to be sure call for a doctor.

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

· **After skin contact:**

Immediately wash with water and soap and rinse thoroughly.
 If skin irritation continues, consult a doctor.

· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

· **After swallowing:**

Rinse out mouth and then drink plenty of water.
 Do not induce vomiting; call for medical help immediately.

5 Fire-fighting measures

· **Suitable extinguishing agents:**

Water spray
 Alcohol-resistant foam
 Fire-extinguishing powder
 Carbon dioxide

· **For safety reasons unsuitable extinguishing agents:** Water with full jet

· **Special hazards caused by the substance, its products of combustion or resulting gases:**

Can form explosive gas-air mixtures.
 In case of fire, the following can be released:
 Carbon monoxide (CO)
 Carbon dioxide (CO₂)

· **Protective equipment:**

Wear a self-contained breathing apparatus.
 Wear fully protective suit.

· **Additional information** Keep adjacent containers cool by spraying with water.

6 Accidental release measures

· **Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.
 Keep away from sources of ignition.
 Avoid eye and skin contact and inhalation.
 Ensure adequate ventilation

· **Measures for environmental protection:**

Prevent seepage into sewage system, workpits and cellars.
 Do not allow product to reach sewage system or any water course.
 Do not allow to penetrate the ground/soil.
 Dilute with plenty of water.

· **Measures for cleaning/collecting:**

Pick up with liquid-binding material (sand, kieselguhr, acid binders or general-purpose binder).

(Contd. on page 3)

Safety Data Sheet

According to 91/155 EEC (2001/58/EG)

Printing date 10.12.2008

Revision: 10.12.2008

Trade name: Auswaschmedium fertig angesetzt

Ensure adequate ventilation.

(Contd. of page 2)

7 Handling and storage

- **Handling:**

- **Information for safe handling:**

Keep receptacles tightly sealed.

Keep away from heat and direct sunlight.

Store in cool, dry place in tightly closed receptacles.

Use only in well ventilated areas.

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

- **Information about fire - and explosion protection:**

Use explosion-proof apparatus / fittings and spark-proof tools.

Use only in explosion protected area.

Vapour may form an explosive mixture with air.



Keep away from sources of ignition - No smoking.

Protect against electrostatic charges.

Entzündung kann durch heiße Oberflächen, Funken und Flammen erfolgen.

- **Storage:**

- **Requirements to be met by storerooms and receptacles:**

Store in a cool location.

Provide solvent resistant, sealed floor.

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

- **Further information about storage conditions:**

Keep container tightly sealed.

Store receptacle in a well ventilated area.

Protect from heat and direct sunlight.

Store in a cool place. Heat will increase pressure and may lead to the receptacle bursting.

- **Storage class:**

3A - Flammable liquid substances with a flashpoint of < 55°C - VbF A I, A II, B I, B II (storage class concept of the VCI)

- **Classification according to the Betriebssicherheitsverordnung (Workplace Safety Ordinance):**

Highly flammable

8 Exposure controls/personal protection

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

- **Ingredients with limit values that require monitoring at the workplace:**

H: In connection with the air limit value the remark "H" (skin) refers to the possibility of dermal absorption i.e. absorption via the mucosa or the eyes in case of a contact with vapours or of direct skin contact with the product.

It should be noted that inhalation must not necessarily be the only way of absorption and measures to minimize a dermal exposure should be considered.

There is no risk of foetus injuries when the work place limit and the biological limit values (BGW) are complied with.

64-17-5 ethanol
WEL Long-term value: 1920 mg/m ³ , 1000 ppm

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Immediately remove all soiled and contaminated clothing

Do not inhale gases / fumes / aerosols.

(Contd. on page 4)

Safety Data Sheet

According to 91/155 EEC (2001/58/EG)

Printing date 10.12.2008

Revision: 10.12.2008

Trade name: Auswaschmedium fertig angesetzt

(Contd. of page 3)

- Avoid contact with the eyes and skin.
 Keep away from foodstuffs, beverages and feed.
 Do not eat, drink, smoke or sniff while working.
 Wash hands before eating, drinking, smoking, using the toilet and at the end of work.

· **Respiratory protection:**



Wear respiratory protection if ventilation is inadequate.

- Gas filter for gases/vapours of organic compounds (boiling point > 65°C, e.g. EN 14387 Type A)(brown)).
 Filter A/P2
 Combination filter ABEK-P2

· **Protection of hands:**



Solvent resistant gloves

· **Material of gloves**

- Butyle rubber 0,5 mm permeation time: ≥ 8 h
 Fluor rubber 0,4 mm permeation time ≥ 480 min
 Polychloroprene (CR)(Neoprene)

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 exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

Protective gloves should be replaced immediately when the first signs of wear appear.

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

Polychloroprene (CR) 0,5 mm permeation time ≥ 120 min

· **Not suitable are gloves made of the following materials:**

Natural rubber/natural latex - NR
 Nitrile rubber, NBR

· **Eye protection:**



Safety glasses

Face protection

· **Body protection:** Solvent resistant protective clothing

9 Physical and chemical properties

· **General Information**

Form:	liquid
Colour:	colourless
Odour:	Alcohol-like

· **Change in condition**

Boiling point/Boiling range: Undetermined.

· **Flash point:**

15°C

· **Danger of explosion:**

Product is not explosive. However, formation of explosive air/vapour mixtures are possible.

· **Density at 20°C:**

0.84 g/cm³

(Contd. on page 5)

Safety Data Sheet

According to 91/155 EEC (2001/58/EG)

Printing date 10.12.2008

Revision: 10.12.2008

Trade name: Auswaschmedium fertig angesetzt

(Contd. of page 4)

- **Solubility in / Miscibility with water:** Fully miscible.

10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
Can be distilled without decomposing at normal pressure.
- **Dangerous reactions** Reacts with strong acids and oxidizing agents.
- **Dangerous decomposition products:** Carbon monoxide and carbon dioxide

11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

64-17-5 ethanol

Oral	LD50	6200-17800 mg/kg (rat)
Dermal	LD50	> 2000 mg/kg (rabbit)
Inhalative	LC50/4 h	> 20 mg/l (mouse) > 8000 mg/l (rat)

78-93-3 butanone

Oral	LD50	3100 mg/kg (rat)
Dermal	LD50	5000 mg/kg (rabbit)
Inhalative	LC50/2 h	40 mg/l (mouse)
	LC50/4 h	12000 mg/l (rat)

- **Primary irritant effect:**
- **on the skin:**
Repeated skin contact may cause dehydration or desquamation of the skin.
Frequent or prolonged skin contact may defat and dry the skin, leading to discomfort and dermatitis.
- **on the eye:** Vapours may cause eye irritation
- **Sensitization:** No sensitizing effects known.
- **Other information (about experimental toxicology):**
Einatmen der Dämpfe kann zu narkotischen Erscheinungen führen.
- **Subacute to chronic toxicity:**
It has been shown in many animal experiments that the repeated oral consumption of large doses of ethanol can lead to damage in practically all organ systems. The main manifestations of the toxic effects are shown by the liver.
- **Experience with humans:**
In humans excessive consumption of alcoholic beverages during pregnancy is associated with the induction of Fetal Alcohol Syndrome in the offspring. Reduced birth weight and physical and mental defects occur. There is no evidence that such effects might be caused by exposures other than direct ingestion of alcoholic drinks. In humans high lifetime consumption of alcoholic beverages can be associated with certain cancers and effects on the liver. There is no evidence that these can be caused by exposure other than direct ingestion of alcoholic drinks (IARC 1988).
- **Additional toxicological information:**
Ethanol ist ein Nerven- und Zellgift, das wegen seiner guten Löslichkeit in Wasser und Fetten, konzentrationsabhängig auf den gesamten Organismus toxisch wirken kann. Die gute Lipidlöslichkeit ist verantwortlich für die starke Hauptwirkung auf das ZNS. Die Aufnahme über die Schleimhäute erfolgt rasch, die über die äußere Haut ist weniger ausgeprägt. Die Elimination erfolgt durch oxidativen Abbau, in zweiter Linie unverändert über Abatmung und Nieren. Hohe Konzentrationen (> 60 %) führen infolge Wasserentzug zu Schädigungen der Schleimhäute. Je nach aufgenommener Menge und Begleitumständen kommt es nach euphorischem Stadium zu unterschiedlichen Rauschzuständen mit Verlust der Selbstkontrolle, Schwindel, Erbrechen. Gegenseitig potenzierend wirkt die gleichzeitige Anwesenheit von Lösemitteln, Amininen,

(Contd. on page 6)

Safety Data Sheet

According to 91/155 EEC (2001/58/EG)

Printing date 10.12.2008

Revision: 10.12.2008

Trade name: Auswaschmedium fertig angesetzt

(Contd. of page 5)

aromatischen Nitroverbindungen und einer Reihe von Arzneimitteln.

· **Development-/reproduction-toxic effects:**

Adverse effects on the male reproductive system have been reported in laboratory animals following repeated exposure to high concentrations. Developmental effects have been observed in laboratory animals following large oral exposures.

· **Mutagenicity:**

The product has been tested in a number of bacterial and mammalian systems. The product did not exhibit mutagenic activity in the following systems (with and without metabolic activation): *Drosophila*. *Salmonella typhimurium*: Human lymphocytes in vitro. Most in vitro tests and all in vivo tests for chromosome aberrations report negative results. The product did not induce micronuclei in standard bone marrow tests in vivo. There is some evidence that ethanol both induces SCE in vivo and can also act as an aneugen at high doses. Overall, there is no robust evidence that ethanol is a genotoxic hazard according to the criteria normally applied for the purpose of classification and labelling of industrial chemicals.

· **Cancerogenicity:** No convincing evidence of carcinogenic effects in animal studies.

12 Ecological information

· **Information about elimination (persistence and degradability):** biodegradable

· **Behaviour in environmental systems:**

· **Mobility and bioaccumulation potential:**

This product is likely to volatilise rapidly into the air because of its high vapour pressure. The product is poorly absorbed in soils or sediments.

This product is not expected to bioaccumulate through food chains in the environment.

· **Ecotoxicological effects:**

· **Acquatic toxicity:**

· **Acute fish toxicity:**

64-17-5 ethanol

LC50/48 h | 8140 mg/l (Golden orfe (*Leuciscus idus*))

LC50/96 h | > 14000 mg/l (lip)

78-93-3 butanone

LC50/48 h | > 100 mg/l (*Leuciscus idus* (golden orfe))

LC50/96 h | 3220 mg/l (*Pimephales promelas* (Sheepshead minnow))

· **Acute bacteria toxicity:**

78-93-3 butanone

EC50 (16 h) | 1150 mg/l (*Pseudomonas putida*)

Ethanol:

Toxische Grenzkonzentrationen für *Pseudomonas putida*: 6500 mg/l

· **Acute daphnia toxicity:**

64-17-5 ethanol

EC50/24 h (OECD 202) | > 100 mg/l (*Daphnia magna*)

LC50/48 h | 9000 mg/l (*Daphnia magna*)

78-93-3 butanone

LC/EC50 (48 h) | 5091 mg/l (*Daphnia magna*)

· **Algae toxicity:**

Ethanol:

Toxische Grenzkonzentrationen für *Scenedesmus quadricauda*: 5000 mg/l

EC50 *Chlorella pyrenoidosa*: > 100 mg/l; OECD TG 201; (Literaturwert)

2-Butanon:

Toxische Grenzkonzentrationen für *Scenedesmus quadricauda*: 4300 mg/l

EC50 *scenedesmus subspicatus*: > 100 mg/l; 7 d; (Literaturwert)

· **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water

(Contd. on page 7)

Safety Data Sheet

According to 91/155 EEC (2001/58/EG)

Printing date 10.12.2008

Revision: 10.12.2008

Trade name: Auswaschmedium fertig angesetzt

(Contd. of page 6)

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

13 Disposal considerations

- **Product:**
- **Recommendation** Disposal according to the public regulatory rules.
- **European waste catalogue**
It is not possible to define a waste disposal key number according to the European Waste catalogue (EWC) since only the purpose of use of the consumer allows for an assignment.
The assignment of the waste disposal key numbers must be made according to the EWC-directive based on the respective sector or process.
- **Uncleaned packaging:**
- **Recommendation:**
Disposal must be made according to official regulations.
Contaminated packaging should be emptied as far as possible; then it can be passed on for recycling after being thoroughly cleaned.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

- **Land transport ADR/RID (cross-border)**



- **ADR/RID class:** 3 (F1) Flammable liquids.
- **Danger code (Kemler):** 33
- **UN-Number:** 1170
- **Packaging group:** II
- **Hazard label:** 3
- **Description of goods:** 1170 ETHANOL (ETHYL ALCOHOL)
- **Limited quantities (LQ)** LQ4
- **Transport category** 2
- **Tunnel restriction code** D1E

- **Inland shipping ADN:**
- **ADN/R Class:** 3
- **Substance identification no.:** 1170
- **Category:** II
- **Description of goods:** Ethanol (Ethylalcohol)

- **Maritime transport IMDG:**



- **IMDG Class:** 3
- **UN Number:** 1170
- **Label** 3
- **Packaging group:** II
- **EMS Number:** F-E,S-D
- **Marine pollutant:** No

(Contd. on page 8)

Safety Data Sheet

According to 91/155 EEC (2001/58/EG)

Printing date 10.12.2008

Revision: 10.12.2008

Trade name: Auswaschmedium fertig angesetzt

(Contd. of page 7)

· **Proper shipping name:** ETHANOL (ETHYL ALCOHOL)

· **Air transport ICAO-TI and IATA-DGR:**



· **ICAO/IATA Class:** 3
 · **UN/ID Number:** 1170
 · **Label:** 3
 · **Packaging group:** II
 · **Proper shipping name:** ETHANOL (ETHYL ALCOHOL)

· **UN "Model Regulation":** UN1170, ETHANOL (ETHYL ALCOHOL), 3, II

15 Regulatory information

· **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with EU Directives / Ordinance on Hazardous Materials.

· **Code letter and hazard designation of product:**



F Highly flammable

· **Risk phrases:**

11 Highly flammable.

· **Safety phrases:**

7 Keep container tightly closed.

16 Keep away from sources of ignition - No smoking.

· **National regulations:**

· **Information about limitation of use:**

Employment restrictions concerning juveniles must be observed according the directive 94/33/EC (§ 22 JArbSchG).

· **Major Accident Hazard Legislation**

Product is subject to the Major Accidents Ordinance (StörfallV); Annex I, No. 7b; amount threshold 1: 5.000.000 kg; amount threshold 2: 50.000.000 kg;

· **Classification according to the Workplace Safety Ordinance (BetrSichV):** Highly flammable

· **Waterhazard class:**

According to the German Regulation on Water Hazard Classification (VwVwS) from May 17, 1999, Annex 4 (Classification of mixtures into water hazard classes) classified as:
 Water hazard class 1 (Self-assessment): slightly hazardous for water.

· **Other regulations, limitations and prohibitive regulations**

According to the EC-directive 1999/13/EC [Limitation of emissions of volatile organic compounds] the product is classified as volatile, organic compound.

· **Accident Prevention Regulations (UVV):** "Processing of coating materials" (VBG 23)

· **BG information sheet:**

M 017 "Solvents" (ZH 1/319)

M 053 "General work protection measures for handling hazardous substances" (BGI 660)

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(Contd. on page 9)

Safety Data Sheet

According to 91/155 EEC (2001/58/EG)

Printing date 10.12.2008

Revision: 10.12.2008

Trade name: Auswaschmedium fertig angesetzt

(Contd. of page 8)

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.

The material safety data sheet is based on data that were accurate as of the date of its preparation. Despite the measures taken by us it might be possible that the data are not up to date or do not correspond to special situations. We are not liable for possible damages or injuries resulting from an inappropriate use, from errors occurring after a correct use or from hazards which are inherent to the product.

The information in this safety data sheet must be made available to anyone, who will handle this product.

· **Relevant R-phrases**

Full wording of the R-phrases, presented in short form in this safety data sheet. The labelling of the product is indicated in section 15.

11 Highly flammable.

36 Irritating to eyes.

66 Repeated exposure may cause skin dryness or cracking.

67 Vapours may cause drowsiness and dizziness.

· **Training hints**

Instructions on hazards and protective measures on the basis of company rulings (TRGS 555). These instructions must be given upon employment and afterwards at least once per year.

· **Department issuing MSDS:**

Department Laboratory

Sch

· **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)

RID: Reglement internationale concernent le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

· **Sources** *This information is based on the information from preliminary suppliers.*

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