

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 05.03.2018

Version number 8

Revision: 05.03.2018

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

- **Product identifier**
- **Trade name:** Mixed indicator solution according to Mortimer
- **Article number:** 03014
- **Registration number** inapplicable, this product is a mixture
- **Relevant identified uses of the substance or mixture and uses advised against**
No further relevant information available.
- **Application of the substance / the mixture**
Chemical intermediate
Laboratory chemicals



- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
Bernd Kraft GmbH
Stempelstraße 6
D-47167 Duisburg

produktinfo@bkraft.de
Tel.: (+49)0203/5194-0
Fax : (+49)0203/5194-290

- **Further information obtainable from:** Product safety department
- **Emergency telephone number:**
For Hazardous Materials [or Dangerous Goods] Incidents
Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night
Within USA and Canada: 1-800-424-9300
Outside USA and Canada: +1 703-741-5970 (collect calls accepted)

2 Hazards identification

- **Classification of the substance or mixture**



flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.



Eye Irrit. 2 H319 Causes serious eye irritation.

- **Label elements**
- **GHS label elements**
The product is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**



GHS02 GHS07

- **Signal word** Danger
- **Hazard statements**
H225 Highly flammable liquid and vapour.

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H319 Causes serious eye irritation.

· **Precautionary statements**

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P241 Use explosion-proof electrical/ventilating/lighting equipment.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.
- P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterisation: Mixtures**

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

· **Dangerous components:**

CAS: 64-17-5	ethanol	50-100%
EINECS: 200-578-6	☠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319	
Reg.nr.: 01-2119457610-43-XXXX		

· **Other substances that are irrelevant for the classification of the mixture:**

CAS: 76-60-8	bromocresol green	≤ 2.5%
EINECS: 200-972-8		
CAS: 493-52-7	2-(4-dimethylaminophenylazo)benzoic acid	≤ 2.5%
EINECS: 207-776-1	☠ Aquatic Chronic 2, H411	

· **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** Immediately remove any clothing soiled by the product.
- **After inhalation** Supply fresh air; consult doctor in case of complaints.
- **After skin contact** Wash off with plenty of water. Immediately remove contaminated clothing.
- **After eye contact**
rinse out with plenty of water
Immediately call in ophthalmologist
- **After swallowing**
Rinse out mouth and then drink plenty of water.
Seek immediate medical advice.
- **Information for doctor**
- **Most important symptoms and effects, both acute and delayed**
irritant effects
Headache
Dizziness

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Breathing difficulty· **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***For this substance/mixture no limitations of extinguishing agents are given*· **Special hazards arising from the substance or mixture***Combustible material**Vapours are heavier than air and may spread along floors.**Ambient fire may liberate hazardous vapours.**In case of fire, the following can be released:**CO, CO₂**Can form explosive gas-air mixtures.*· **Advice for firefighters** *Evacuate the danger area.*· **Protective equipment:***Stay in danger area only with self-contained breathing apparatus.**Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.*· **Additional information***Cool endangered receptacles with water spray.**Suppress (knock down) gases/vapours/mists with a water spray jet. Prevent fire extinguishing water from contaminating surface water or the ground water system.*

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures***Advice for non-emergency personnel:**Do not breathe vapours, aerosols.**Ensure adequate ventilation**Avoid substance contact.**Wear protective equipment. Keep unprotected persons away.**Evacuate the danger area.**consult an expert**observe emergency procedures**Advice for emergency responders: Protective equipment see section 8.*· **Environmental precautions:***Do not allow to enter sewers/ surface or ground water.**Prevent seepage into sewage system, workpits and cellars.**Risk of explosion*· **Methods and material for containment and cleaning up:***Cover drains.**Collect, bind, and pump off spills.**Observe possible material restrictions**Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).**Ensure adequate ventilation.**Send for recovery or disposal in suitable receptacles.*

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- Dispose contaminated material as waste according to item 13.
- **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.

7 Handling and storage

- **Handling**
- **Precautions for safe handling**
- Prevent formation of aerosols.
- Keep receptacles tightly sealed.
- General occupational hygiene measures.
- Remove contaminated clothing.
- **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:** national regulations
- **Further information about storage conditions:**
- Protect from heat and direct sunlight.
- Store in cool, dry conditions in well sealed receptacles.
- **Storage class .**
- **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:**

64-17-5 ethanol

WEL Long-term value: 1920 mg/m³, 1000 ppm

- **DNELs**

64-17-5 ethanol

Dermal	DNEL long-term	343 mg/kg (Worker) (systemische Effekte/Körpergewicht) MSDS
Inhalative	DNEL akut	1900 mg/m ³ (Worker) (lokale Effekte) MSDS
	DNEL long-term	950 mg/m ³ (Worker) (systemische Effekte) MSDS

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· PNECs	
64-17-5 ethanol	
PNEC	580 mg/l (Sewage treatment plant) MSDS
	2.75 mg/l (Intermittent release) (ins Wasser) MSDS
	0.79 mg/l (Marine water) MSDS
	0.96 mg/l (Fresh water) MSDS
PNEC	0.63 mg/kg (Soil) MSDS
	3.6 mg/kg (Fresh water sediment) MSDS
	720 mg/kg (.) (oral) MSDS

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**

· **Personal protective equipment**

· **General protective and hygienic measures** Wash hands before breaks and at the end of work.

· **Respiratory protection:** required when vapours/aerosols are generated.

· **Protection of hands:**

Suitable examples are gloves of KCL GmbH, D-36124 Eichenzell, e-mail: vertrieb@kcl.de with the following specification (test according to EN 374):

· **Material of gloves .**

· **Penetration time of glove material .**

· **For the permanent contact gloves made of the following materials are suitable:**

Butyl rubber, BR

Recommended thickness of the material: 0.3 mm

Value for the permeation: Level > 480 min

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

Chloroprene rubber, CR

Recommended thickness of the material: 0.65 mm

Value for the permeation: Level > 60 min

The protective gloves to be used must comply with the specifications of EC Directive 89/686/EEC and the related standard EN374, for example

KCL 897 Butoject® (full contact)

KCL 720 Camapren® (splash contact)

The breakthrough times stated above were determined by KCL in laboratory tests acc. to EN374 with samples of the recommended glove types.

This recommendation applies only to the product stated in the safety data sheet (>,<) supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN374 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-36124 Eichenzell, Internet: www.kcl.de).

· **Eye protection:** Tightly sealed goggles.

· **Body protection:**

Protective work clothing.

Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

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- Flame retardant antistatic protective clothing
- **Limitation and supervision of exposure into the environment**
- Discharge into the environment must be avoided.
Do not empty into drains.
Risk of explosion

9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Fluid

Colour: Red

- **Odour:** Alcohol-like

- **Odour threshold:** Not determined.

- **pH-value:** Neutral

- **Change in condition**

Melting point/freezing point: undetermined

Initial boiling point and boiling range: 78 °C

- **Flash point:** 13 °C

- **Flammability (solid, gaseous)** Not applicable.

- **Ignition temperature:** 425 °C

- **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: 3.4 Vol %

Upper: 15.0 Vol %

- **Vapour pressure at 20 °C:** 59 hPa

- **Density at 20 °C:** 0.79 g/cm³

- **Relative density** Not determined.

- **Vapour density** Not determined.

- **Evaporation rate** Not determined.

- **Solubility in / Miscibility with**

Water: Fully miscible

- **Partition coefficient: n-octanol/water:** Not determined.

- **Viscosity:**

dynamic: Not determined.

kinematic: Not determined.

- **Solvent content:**

Organic solvents: 99.8 %

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· Other information

No further relevant information available.

10 Stability and reactivity

- **Reactivity** Vapours may form explosive mixture with air.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**
No decomposition if used according to specifications.
- **Possibility of hazardous reactions**
(For ethanol)
Risk of explosion with : / Risk of ignition or formation of inflammable gases or vapors with:
Chromium (VI) oxide, hydrogen peroxide, uranium hexafluoride, nitrogen dioxide, nitric acid, phosphorus oxides, permanganic acid, perchloric acid, sulfuric acid, potassium permanganate, perchlorates, fluorine, ethylene oxide, chromyl chloride, halogen-halogen compounds, strong oxidizing agent, alkali metal oxides, alkaline earth metals, alkali metals
- **Conditions to avoid** Heating.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** event of fire: See chapter 5

11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity**

· LD/LC50 values relevant for classification:

64-17-5 ethanol		
Oral	LD ₅₀	6300 mg/kg (rabbit) MSDS
		3450 mg/kg (mouse) MSDS
		5560 mg/kg (guinea pig) MSDS
		6200 mg/kg (rat) MSDS
Inhalative	LC ₅₀	95.6 mg/l / 4 h (rat) MSDS

- **Primary irritant effect:**
- **Skin corrosion/irritation** No irritant effect.
- **Serious eye damage/irritation** Irritating effect.
- **Respiratory or skin sensitisation** No sensitising effects known.
- **Acute effects (acute toxicity, irritation and corrosivity)** irritation

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12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

64-17-5 ethanol

IC5 5000 mg/l (Algae) (7d/Grünalge)

MSDS

EC5 6500 mg/l (Bacteria) (16h/Pseudomonas putida)

MSDS

65 mg/l (Daphnia) (72h/Entosiphon sulcatum)

MSDS

EC50 9268-14221 mg/l (Daphnia) (48h/Daphnia magna)

MSDS

LC50 8140 mg/l (Fish) (48h/Goldorfe)

MSDS

493-52-7 2-(4-dimethylaminophenylazo)benzoic acid

LC50 7 mg/l (Fish) (96h)

Fremd-SDBI

· **Persistence and degradability**

No further relevant information available.

64-17-5 ethanol

Biodegradability 94 % (.)

MSDS

· **Behaviour in environmental systems:**

· **Bioaccumulative potential**

64-17-5 ethanol

log Pow -0.31 (n-octanol/water)

MSDS

76-60-8 bromocresol green

log Pow 7.86 (n-octanol/water)

493-52-7 2-(4-dimethylaminophenylazo)benzoic acid

log Pow 3.83 (n-octanol/water) (Fremd-SDBI)

Ein nennenswertes Bioakkumulationspotential ist zu erwarten (log Po/w >3).

· **Mobility in soil** No further relevant information available.

· **Additional ecological information:**

· **General notes:**

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

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** Do not allow to run into surface waters, wastewater, or soil.

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13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations
Hand over to hazardous waste disposers.
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.
- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Transport information

· UN-Number	
· ADR, IMDG, IATA	UN1170
· UN proper shipping name	
· ADR	1170 ETHANOL (ETHYL ALCOHOL)
· IMDG	ETHANOL (ETHYL ALCOHOL)
· IATA	ETHANOL
· Transport hazard class(es)	
· ADR	
	
· Class	3 (F1) Flammable liquids.
· Label	3
· IMDG, IATA	
	
· Class	3 Flammable liquids.
· Label	3
· Packing group	
· ADR, IMDG, IATA	II
· Environmental hazards:	
· Marine pollutant:	No
· Special precautions for user	Warning: Flammable liquids.
· Danger code (Kemler):	33
· EMS Number:	F-E,S-D

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· Stowage Category	A
· Transport in bulk according to Annex II of Marpol and the IBC Code	Not applicable.
· Transport/Additional information:	
· ADR	
· Limited quantities (LQ)	IL
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· Transport category	2
· Tunnel restriction code	D/E
· IMDG	
· Limited quantities (LQ)	IL
· Excepted quantities (EQ)	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· UN "Model Regulation":	UN 1170 ETHANOL (ETHYL ALCOHOL), 3, II

15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **GHS label elements**
The product is classified and labelled according to the Globally Harmonised System (GHS).
- **Hazard pictograms**



GHS02 GHS07

- **Signal word** Danger
- **Hazard statements**
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
- **Precautionary statements**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/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.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
- **Directive 2012/18/EU**
- **Named dangerous substances - ANNEX I** None of the ingredients is listed.

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- **Seveso category P5c FLAMMABLE LIQUIDS**
- **Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t**
- **Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t**
- **National regulations**
- **Technical instructions (air):**

Class	Share in %
NK	99.8

- **Waterhazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.**
- **Other regulations, limitations and prohibitive regulations**

· **Substances of very high concern (SVHC) according to REACH, Article 57**
not included

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**

H225 Highly flammable liquid and vapour.

H319 Causes serious eye irritation.

H411 Toxic to aquatic life with long lasting effects.

- **Contact: Abteilung Produktinformation**

- **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

IATA: International Air Transport Association

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

PBT: Persistent, Bioaccumulative and Toxic

SVHC: Substances of Very High Concern

vPvB: very Persistent and very Bioaccumulative

Flam. Liq. 2: Flammable liquids – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

- *** Data compared to the previous version altered.**