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

1.1. Product identifier

Potassium hydroxide solution 0.05 mol/l - 0.05 N solution in 2-propanol contains approx. 5 vol. % wa

UFI: TDP9-A1JE-900U-ENX2

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

Use of the substance/mixture

Laboratory chemicals
Industrial uses: Uses of substances as such or in preparations at industrial sites
Professional uses: Public domain (administration, education, entertainment, services, craftsmen)

Uses advised against

Do not use for private purposes (household).

1.3. Details of the supplier of the safety data sheet

Company name:	AnalytiChem GmbH ACD	
Street:	Stempelstraße 6	
Place:	D-47167 Duisburg	
Telephone:	0203/5194-0	Telefax: 0203/5194-290
E-mail:	info@analytichem.de	
Contact person:	Abteilung Produktsicherheit	Telephone: 0203/5194-107/117
E-mail:	produktsicherheit@analytichem.de	
Internet:	www.analytichem.de	
Responsible Department:	Abteilung Produktsicherheit	

1.4. 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)

Further Information

inapplicable, this product is a mixture REACH registration number see section 3

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

GB CLP Regulation

Met. Corr. 1; H290
Flam. Liq. 2; H225
Eye Irrit. 2; H319
STOT SE 3; H336

Full text of hazard statements: see SECTION 16.

2.2. Label elements

GB CLP Regulation

Hazard components for labelling

propan-2-ol; isopropyl alcohol; isopropanol

Signal word: Danger

Pictograms:

Hazard statements

H225	Highly flammable liquid and vapour.
H290	May be corrosive to metals.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.
P390	Absorb spillage to prevent material damage.
P403+P235	Store in a well-ventilated place. Keep cool.

2.3. Other hazards

No data available

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Relevant ingredients

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol			90 - < 95 %
	200-661-7	603-117-00-0		
	Flam. Liq. 2, Eye Irrit. 2, STOT SE 3; H225 H319 H336			

Full text of H and EUH statements: see section 16.

Further Information

This product does not contain substances of very high concern according to Regulation (EC) No 1907/2006 (REACH), Article 57 above the respective regulatory concentration limit of = 0.1 % (w/w).

SECTION 4: First aid measures

4.1. Description of first aid measures

General information

No data available

After inhalation

Provide fresh air.
Call a physician immediately.

After contact with skin

Wash immediately with: Water
Take off immediately all contaminated clothing and wash it before reuse.

After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
Remove contact lenses, if present and easy to do. Continue rinsing.

After ingestion

Observe risk of aspiration if vomiting occurs.

Call a physician immediately.

4.2. Most important symptoms and effects, both acute and delayed

Irritant
Respiratory complaints
Headache
Gastrointestinal complaints
Dizziness
Dizziness
Inebriation
Anaesthetic state
Unconsciousness
Repeated exposure may cause skin dryness or cracking.

4.3. Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings.

Unsuitable extinguishing media

no restriction

5.2. Special hazards arising from the substance or mixture

Combustible liquids
Vapours are heavier than air, spread along floors and form explosive mixtures with air.
Hazardous combustion products
In case of fire may be liberated: Carbon dioxide (CO2), Carbon monoxide
Heating causes rise in pressure with risk of bursting.
Beware of reignition.

5.3. Advice for firefighters

In case of fire: Wear self-contained breathing apparatus.
In case of fire and/or explosion do not breathe fumes.
Avoid contact with skin, eyes and clothes.

Additional information

Collect contaminated fire extinguishing water separately. Do not allow entering drains or surface water.
Move undamaged containers from immediate hazard area if it can be done safely.
Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General advice

Keep away from sources of ignition - No smoking.
This material can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe).
Take action to prevent static discharges.
Corrosive to metals.

For non-emergency personnel

Provide adequate ventilation.
Use personal protection equipment.
Avoid contact with skin, eyes and clothes.

Remove persons to safety.
Emergency procedures
Consult an expert
Do not breathe dust/fume/gas/mist/vapours/spray.

For emergency responders

Precautionary statements For emergency responders : Personal protection equipment: see section 8

6.2. Environmental precautions

Do not allow to enter into surface water or drains.
The vapour of the product is heavier than air and may accumulate below ground level, in pits, channels and basements in higher concentration.
Danger of explosion

6.3. Methods and material for containment and cleaning up

For containment

Cover drains.
Prevent spread over a wide area (e.g. by containment or oil barriers).
Collect in closed and suitable containers for disposal.
Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents).

For cleaning up

Clean contaminated articles and floor according to the environmental legislation.

Other information

Provide adequate ventilation.
Do not breathe dust/fume/gas/mist/vapours/spray.
Wear breathing apparatus if exposed to vapours/dusts/aerosols.

6.4. Reference to other sections

Safe handling: see section 7
Personal protection equipment: see section 8
Disposal: see section 13

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling

Read label before use. Handle and open container with care.
When using do not eat, drink, smoke, sniff. Keep container tightly closed.
Use personal protection equipment. Use extractor hood (laboratory).
Do not breathe vapour/aerosol. Provide adequate ventilation.
Avoid: aerosol or mist formation

Advice on protection against fire and explosion

Take action to prevent static discharges. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Advice on general occupational hygiene

Keep away from food, drink and animal feedingstuffs.
Wash hands and face before breaks and after work and take a shower if necessary.
When using do not eat or drink.
Avoid: aerosol or mist formation
Do not breathe vapour/aerosol.

Further information on handling

Take off immediately all contaminated clothing and wash it before reuse.
Draw up and observe skin protection programme. Wash hands and face before breaks and after work and take a shower if necessary. If handled uncovered, arrangements with local exhaust ventilation have to be used.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place.
Store in a cool dry place.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints on joint storage

national regulations

Further information on storage conditions

Protect from sunlight.
storage temperature: +15°C - +25°C

7.3. Specific end use(s)

Laboratory chemicals

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure limits (EH40)

CAS No	Substance	ppm	mg/m³	fibres/ml	Category	Origin
1310-58-3	Potassium hydroxide	-	2		STEL (15 min)	WEL
67-63-0	Propan-2-ol	400	999		TWA (8 h)	WEL
		500	1250		STEL (15 min)	WEL

DNEL/DMEL values

CAS No	Substance		
DNEL type	Exposure route	Effect	Value
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol		
Worker DNEL, long-term	inhalation	systemic	500 mg/m³
Worker DNEL, long-term	dermal	systemic	888 mg/kg bw/day
Consumer DNEL, long-term	inhalation	systemic	89 mg/m³
Consumer DNEL, long-term	dermal	systemic	319 mg/kg bw/day
Consumer DNEL, long-term	oral	systemic	26 mg/kg bw/day
1310-58-3	potassium hydroxide		
Worker DNEL, long-term	inhalation	local	1 mg/m³
Consumer DNEL, long-term	inhalation	local	1 mg/m³

PNEC values

CAS No	Substance	
Environmental compartment		Value
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol	
Freshwater		140,9 mg/l
Freshwater (intermittent releases)		140,9 mg/l
Marine water		140,9 mg/l
Freshwater sediment		552 mg/kg
Marine sediment		552 mg/kg
Secondary poisoning		160 mg/kg
Micro-organisms in sewage treatment plants (STP)		2251 mg/l
Soil		28 mg/kg

8.2. Exposure controls

Appropriate engineering controls

Technical measures and the application of suitable work processes have priority over personal protection equipment.
If handled uncovered, arrangements with local exhaust ventilation have to be used.

Individual protection measures, such as personal protective equipment

Eye/face protection

goggles
Face protection umbrella

Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

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

Recommended glove articles KCL 730 Camatril® Velours
Thickness of the glove material NBR (Nitrile rubber) 0,4 mm
Wearing time with permanent contact: > 480 min

Recommended glove articles KCL 720 Camapren®
Thickness of the glove material CR (polychloroprene, chloroprene rubber) 0,65 mm
Wearing time with occasional contact (splashes): > 120 min

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).

Skin protection

Wear fire resistant or flame retardant clothing.
Take off immediately all contaminated clothing and wash it before reuse.
Wear suitable protective clothing. Take off immediately all contaminated clothing.
Wash hands and face before breaks and after work and take a shower if necessary.

Respiratory protection

Wear breathing apparatus if exposed to vapours/dusts/aerosols.

Environmental exposure controls

Do not allow to enter into surface water or drains.
Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches.
Danger of explosion

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state:	Liquid	
Colour:	colourless	
Odour:	like: Alcohol	
Odour threshold:	No data available	
Melting point/freezing point:		No data available
Boiling point or initial boiling point and boiling range:		~82 °C
Flammability:		No data available
Lower explosion limits:		2 vol. %
Upper explosion limits:		13 vol. %
Flash point:		~13 °C
Auto-ignition temperature:		~425 °C
Decomposition temperature:		No data available
pH-Value:		alkaline
Viscosity / kinematic:		No data available
Water solubility:		Soluble in: Water

Solubility in other solvents

No data available

Partition coefficient n-octanol/water:	No data available
Vapour pressure:	No data available
Vapour pressure:	No data available
Density:	0,79028 g/cm³
Bulk density:	No data available
Relative vapour density:	No data available

9.2. Other information

Information with regard to physical hazard classes

Explosive properties

Vapours are heavier than air, spread along floors and form explosive mixtures with air.

Sustaining combustion:	Sustaining combustion

Self-ignition temperature

Solid:	No data available
Gas:	No data available

Oxidizing properties

No data available

Other safety characteristics

Evaporation rate:	No data available
Solvent separation test:	No data available
Solid content:	No data available
Sublimation point:	No data available
Softening point:	No data available
Pour point:	No data available

No data available

Viscosity / dynamic: No data available

Flow time: No data available

Further Information

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

Vapours may form explosive mixtures with air.

10.2. Chemical stability

The product is stable under storage at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Oxidising agent, Alkali metals, Alkaline earth metal
chromium trioxide, Nitric acid, aldehydes
Amines, Aluminium, Chlorine (Cl2)
Phosphorus trichloride, Strong acid, Phosgene
Hydrogen peroxide, Nitrogen oxides (NOx), Iron.

10.4. Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

10.5. Incompatible materials

Glass
Metal
Plastic articles

10.6. Hazardous decomposition products

SECTION 5: Firefighting measures

Further information

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in GB CLP Regulation

Toxicocinetics, metabolism and distribution

No data available

Acute toxicity

Based on available data, the classification criteria are not met.
Mucous membrane irritation in the mouth, throat, esophagus and gastrointestinal tract.

ATEmix calculated

ATE (oral) > 2000 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) > 20 mg/l; ATE (inhalation dust/mist) > 5 mg/l

Irritation and corrosivity

Causes serious eye irritation.
Skin corrosion/irritation: Based on available data, the classification criteria are not met.
Repeated exposure may cause skin dryness or cracking.

Sensitising effects

Based on available data, the classification criteria are not met.

Carcinogenic/mutagenic/toxic effects for reproduction

Based on available data, the classification criteria are not met.

STOT-single exposure

May cause drowsiness or dizziness. (propan-2-ol; isopropyl alcohol; isopropanol)
Organs affected: central nervous system

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met.
Observe risk of aspiration if vomiting occurs.

Specific effects in experiment on an animal

No data available

Additional information on tests

No data available

Practical experience

No data available

11.2. Information on other hazards

Other information

Pulmonary oedema Pneumonia

Further information

Irritant
Respiratory complaints
Headache
Gastrointestinal complaints
Dizziness
Dizziness
Inebriation
Anaesthetic state
Unconsciousness
Repeated exposure may cause skin dryness or cracking.

SECTION 12: Ecological information

12.1. Toxicity

There are no data available on the mixture itself.

CAS No	Chemical name					
	Aquatic toxicity	Dose	[h] | [d]	Species	Source	Method
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol					
	Acute fish toxicity	LC50 10000 mg/l	96 h	Pimephales promelas	Publication (1983)	OECD Guideline 203

12.2. Persistence and degradability

There are no data available on the mixture itself.

12.3. Bioaccumulative potential

There are no data available on the mixture itself.

Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
67-63-0	propan-2-ol; isopropyl alcohol; isopropanol	0,05

12.4. Mobility in soil

There are no data available on the mixture itself.

12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.
The substances in the mixture do not meet the PBT/vPvB criteria according to REACH, annex XIII.

12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

12.7. Other adverse effects

Avoid release to the environment.

Further information

Do not allow to enter into surface water or drains.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations

Waste disposal according to directive 2008/98/EC, covering waste and dangerous waste.
Send to a physico-chemical treatment facility under observation of official regulations.
Do not mix with other wastes.

Contaminated packaging

Handle contaminated packages in the same way as the substance itself.
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

SECTION 14: Transport information

Land transport (ADR/RID)

14.1. UN number or ID number:	UN 2924
14.2. UN proper shipping name:	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (propan-2-ol; isopropyl alcohol; isopropanol, potassium hydroxide)
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3+8
Classification code:	FC
Special Provisions:	274
Limited quantity:	1 L
Excepted quantity:	E2
Transport category:	2
Hazard No:	338
Tunnel restriction code:	D/E

Inland waterways transport (ADN)

14.1. UN number or ID number:	UN 2924
14.2. UN proper shipping name:	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (propan-2-ol; isopropyl alcohol; isopropanol, potassium hydroxide)
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3+8
Classification code:	FC
Special Provisions:	274
Limited quantity:	1 L
Excepted quantity:	E2

Marine transport (IMDG)

14.1. UN number or ID number:	UN 2924

14.2. UN proper shipping name:	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (propan-2-ol, potassium hydroxide)
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3+8
Special Provisions:	274
Limited quantity:	1 L
Excepted quantity:	E2
EmS:	F-E, S-C

Air transport (ICAO-TI/IATA-DGR)

14.1. UN number or ID number:	UN 2924
14.2. UN proper shipping name:	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (propan-2-ol, potassium hydroxide)
14.3. Transport hazard class(es):	3
14.4. Packing group:	II
Hazard label:	3+8
Special Provisions:	A3
Limited quantity Passenger:	0.5 L
Passenger LQ:	Y340
Excepted quantity:	E2
IATA-packing instructions - Passenger:	352
IATA-max. quantity - Passenger:	1 L
IATA-packing instructions - Cargo:	363
IATA-max. quantity - Cargo:	5 L

14.5. Environmental hazards

ENVIRONMENTALLY HAZARDOUS: No

SECTION 15: Regulatory information

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

EU regulatory information

Restrictions on use (REACH, annex XVII):

Entry 3, Entry 40, Entry 75

Information according to Directive 2012/18/EU (SEVESO III): P5c FLAMMABLE LIQUIDS

National regulatory information

Employment restrictions: Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).

Water hazard class (D): 1 - slightly hazardous to water

SECTION 16: Other information

Changes

This data sheet contains changes from the previous version in section(s): 1,9.

Abbreviations and acronyms

Met. Corr: Corrosive to metals
Flam. Liq: Flammable liquids
Acute Tox: Acute toxicity
Skin Corr: Skin corrosion
Eye Irrit: Eye irritation
STOT SE: Specific target organ toxicity - single exposure

Classification for mixtures and used evaluation method according to GB CLP Regulation

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Flam. Liq. 2; H225	On basis of test data
Eye Irrit. 2; H319	Calculation method
STOT SE 3; H336	Calculation method

Relevant H and EUH statements (number and full text)

H225	Highly flammable liquid and vapour.
H290	May be corrosive to metals.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.

Further Information

Provide appropriate information, instructions and training to users

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material. The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights.

The receiver of our product is singularly responsible for adhering to existing laws and regulations.

(The data for the relevant ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)