Safety Data Sheet

according to the (US) Hazard Communication Standard (29 CFR 1910.1200)

Revision date: 28.05.2015	*Version: 1.0*	*Print date: 31.05.2015*

SECTION 1: Identification

Product identifier

Trade name/designation:	Potassium hydroxide 0.1N in Isopropanol
Product No.:	PHIPA01 (63057859, 63057860)
Substance name:	Potassium hydroxide (0.1 - < 0.35 mol/l; < 0.1 - < 0.35 N) in 2-propanol
CAS No.:	1310-58-3
INDEX No.:	000-000-00-0
REACH registration No.:	Not yet communicated down the supply chain.
Other means of identification:	

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

Relevant identified uses:	General chemical reagent

Details of the supplier of the safety data sheet

United States of America

VWR Chemical Manufacturing LLC

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Postal code/city	Rouses Point, NY 12979
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Telefax	+1-610-728-2103
E-mail (competent person)	NAMSDS@vwr.com

Emergency telephone

Telephone	+1-800-424-9300 (Chemtrec, 24 hrs/day, 7 days/week, USA)

Canada

VWR Chemical Manufacturing LLC

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Emergency telephone

Telephone	+1-613-996-6666 (Canutec, 24 hrs/day, 7 days/week, Canada)

SECTION 2: Hazards identification

Classification of the substance or mixture

Classification according GHS

Hazard classes and hazard categories	Hazard statements
Flammable liquid, category 2	H225
Eye irritation, category 2	H319
Skin irritation, category 2	H315
Specific target organ toxicity (single exposure), category 3, narcotic effect	H336
Substance or mixture corrosive to metals, category 1	H290

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

F	Highly flammable	R11
Xi	Irritant	R36
		R67

Label elements

Labelling according GHS

Hazard pictograms

Signal word: Danger

Hazard statements	
H225	Highly flammable liquid and vapour.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H336	May cause drowsiness or dizziness.
H290	May be corrosive to metals.

Precautionary statements	
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P243	Take precautionary measures against static discharge.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water/…
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER/doctor/…/if you feel unwell.

Labelling (67/548/EEC or 1999/45/EC)

Hazard symbols

F, Xi

R-phrases	
R11	Highly flammable.
R36	Irritating to eyes.
R67	Vapours may cause drowsiness and dizziness.

S-phrases	
S7	Keep container tightly closed.
S16	Keep away from sources of ignition - No smoking.
S24/25	Avoid contact with skin and eyes.
S26	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Other hazards

SVHC No

SECTION 3: Composition / information on ingredients

Hazardous ingredients Classification according to the OSHA Hazard Communication Standard 29 CFR 1910.1200

Substance name	Concentration	Product identifier	Hazard classes and hazard categories
Potassium hydroxide	0,5-2%	CAS No.: EC No.: REACH No.: Not yet communicated down the supply chain.	Acute toxicity, category 4, oral - H302 Skin corrosion, category 1A - H314 Substance or mixture corrosive to metals, category 1 - H290
2-Propanol	>98%	CAS No.: EC No.: REACH No.: Not yet communicated down the supply chain.	Flammable liquid, category 2 - H225 Eye irritation, category 2 - H319 Specific target organ toxicity (single exposure), category 3, narcotic effect - H336

Hazardous ingredients Classification according to 67/548/EEC

Substance name	Concentration	Product identifier	Hazard classes and hazard categories
Potassium hydroxide	0,5-2%	CAS No.: EC No.: REACH No.: Not yet communicated down the supply chain.	Xn, Harmful, R22 C, Corrosive, R35
2-Propanol	>98%	CAS No.: EC No.: REACH No.: Not yet communicated down the supply chain.	F, Highly flammable, R11 Xi, Irritant, R36 R67

SECTION 4: First aid measures

General information

IF exposed or if you feel unwell: Call a POISON CENTRE or doctor/physician. If unconscious place in recovery position and seek medical advice. Never give anything by mouth to an unconscious person or a person with cramps. Change contaminated, saturated clothing. Do not leave affected person unattended.

After inhalation

Call a POISON CENTRE/doctor/…. Remove casualty to fresh air and keep warm and at rest. If breathing is irregular or stopped, administer artificial respiration.

In case of skin contact

After contact with skin, wash immediately with plenty of water and soap. Remove contaminated, saturated clothing immediately. In case of skin reactions, consult a physician.

After eye contact

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. Protect uninjured eye. Remove contact lenses, if present and easy to do. Continue rinsing.

In case of ingestion

If accidentally swallowed rinse the mouth with plenty of water (only if the person is conscious) and obtain immediate medical attention. Do NOT induce vomiting. Give nothing to eat or drink.

Most important symptoms and effects, both acute and delayed

no data available

Indication of any immediate medical attention and special treatment needed

no data available

Self-protection of the first aider

First aider: Pay attention to self-protection!

Information to physician

no data available

SECTION 5: Firefighting measures

Extinguishing media

Suitable extinguishing media

Water spray ABC-powder Carbon dioxide (CO_2) Nitrogen

Extinguishing media which must not be used for safety reasons

no restriction

Special hazards arising from the substance or mixture

In case of fire may be liberated: Pyrolysis products, toxic

Advice for firefighters

DO NOT fight fire when fire reaches explosives. In case of fire: Wear self-contained breathing apparatus.

Additional information

Do not allow run-off from fire-fighting to enter drains or water courses. Do not inhale explosion and combustion gases. Use caution when applying carbon dioxide in confined spaces. Carbon dioxide can displace oxygen. Use water spray jet to protect personnel and to cool endangered containers.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures

Avoid generation of dust. Do not breathe dust. Provide adequate ventilation. Avoid contact with skin, eyes and clothes.

Environmental precautions

Do not allow to enter into surface water or drains.

Methods and material for containment and cleaning up

Spilled product must never be returned to the original container for recycling. Take up carefully when dry. Clean contaminated objects and areas thoroughly observing environmental regulations. Collect in closed and suitable containers for disposal.

Additional information

Clear spills immediately.

SECTION 7: Handling and storage

Precautions for safe handling

Avoid: Inhalation Avoid contact with skin and eyes. Use extractor hood (laboratory). If handled uncovered, arrangements with local exhaust ventilation have to be used. If local exhaust ventilation is not possible or not sufficient, the entire working area must be ventilated by technical means. Protect from moisture.

Conditions for safe storage, including any incompatibilities

storage temperature: 15-25 °C

Storage class: 3

Keep container tightly closed in a cool, well-ventilated place.

Specific end use(s)

no data available

SECTION 8: Exposure controls/personal protection

Control parameters

Ingredient (Designation)	Regulatory information	Country	Limit value type (country of origin)	Limit value	Remark
Potassium hydroxide	NIOSH	US	STV	2 mg/m³	Ceiling limit value
2-Propanol	OSHA	US	LTV	980 mg/m³ - 400 ppm	
2-Propanol	NIOSH	US	LTV	980 mg/m³ - 400 ppm	
2-Propanol	NIOSH	US	STV	1225 mg/m³ - 500 ppm	15 minutes average value

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.

Personal protection equipment

Wear suitable protective clothing. When handling with chemical substances, protective clothing with CE-labels including the four control digits must be worn. For the protection against direct skin contact, body protective clothing is essential (in addition to the usual working clothes).

Eye/face protection

Eye glasses with side protection DIN-/EN-Norms: DIN EN 166

Recommendation: VWR 111-0432

Skin protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. Recommended glove articles DIN-/EN-Norms: DIN EN 374 In the case of wanting to use the gloves again, clean them before taking off and air them well.

By short-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,12 mm
Breakthrough time (maximum wearing time):	51 min
Recommended glove articles:	VWR 112-0998

By long-term hand contact

Suitable material:	NBR (Nitrile rubber)
Thickness of the glove material:	0,38 mm
Breakthrough time (maximum wearing time):	> 480 min
Recommended glove articles:	VWR 112-3717 / 112-1381

Respiratory protection

Respiratory protection necessary at: aerosol or mist formation

Suitable respiratory protection apparatus:	Full-/half-/quarter-face masks (DIN EN 136/140)
Recommendation:	VWR 111-0206
Suitable material:	A2B2E2K2P3
Recommendation:	VWR 111-0059

Additional information
Wash hands before breaks and after work. Avoid contact with skin and eyes. When using do not eat, drink or smoke. Provide eye shower and label its location conspicuously.

Environmental exposure controls
no data available

SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties

(a) Appearance	
Physical state:	liquid
Colour:	colourless
(b) Odour:	no data available
(c) Odour threshold:	no data available

Safety relevant basic data

(d) pH:	no data available
(e) Melting point/freezing point:	no data available
(f) Initial boiling point and boiling range:	no data available
(g) Flash point:	no data available
(h) Evaporation rate:	no data available
(i) Flammability (solid, gas):	Highly flammable liquid and vapour.
(j) Upper/lower flammability or explosive limits	
Lower explosion limit:	no data available
Upper explosion limit:	no data available
(k) Vapour pressure:	no data available
(l) Vapour density:	no data available
(m) Relative density:	no data available
(n) Solubility(ies)	
at 20 °C:	no data available
Soluble (g/L) in:	no data available
(o) Partition coefficient: n-octanol/water:	no data available
(p) Auto-ignition temperature:	no data available
(q) Decomposition temperature:	no data available
(r) Viscosity	
Kinematic viscosity:	no data available
Dynamic viscosity:	no data available
(s) Explosive properties:	not applicable
(t) Oxidising properties:	not applicable

Other information

Bulk density:	no data available
Refraction index:	no data available
Dissociation constant:	no data available
Surface tension:	no data available
Henry constant:	no data available

SECTION 10: Stability and reactivity

Reactivity

Vapours can form explosive mixtures with air.

Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

Possibility of hazardous reactions

Formation of explosive mixtures with: Oxidising agent Nitrogen oxides (NOx) Material, oxygen-rich, oxidizing Nitric acid Chlorine Bromine Exothermic reaction with: Reducing agent Acid Acid halides Alkali (lye), concentrated Violent reaction with: Alkali metals Alkaline earth metal Formation of: Hydrogen

Conditions to avoid

UV-radiation/sunlight Heat This material is combustible and can be ignited by heat, sparks, flames, or other sources of ignition (e.g. static electricity, pilot lights, or mechanical/electrical equipment).

Incompatible materials

light metals Plastic articles

Hazardous decomposition products

no data available

Additional information

Slowly corrodes aluminium and zinc under hydrogen evolution.

SECTION 11: Toxicological information

Information on toxicological effects

Acute effects
Acute oral toxicity:
no data available

Acute dermal toxicity:
no data available

Acute inhalation toxicity:
no data available

Irritant and corrosive effects
Primary irritation to the skin:
Causes skin irritation.

Irritation to eyes:
Causes serious eye irritation.

Irritation to respiratory tract:
not applicable

Respiratory or skin sensitisation
In case of skin contact: not sensitising
After inhalation: not sensitising

STOT-single exposure
May cause drowsiness or dizziness.

STOT-repeated exposure
not applicable

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)
Carcinogenicity
No indication of human carcinogenicity.

Germ cell mutagenicity
No indications of human germ cell mutagenicity exist.

Reproductive toxicity
No indications of human reproductive toxicity exist.

Aspiration hazard
not applicable

Other adverse effects
no data available

Additional information
no data available

SECTION 12: Ecological information

Ecotoxicity

Acute (short-term) fish toxicity:
no data available

Chronic (long-term) fish toxicity:
no data available

Acute (short-term) daphnia toxicity:
no data available

Chronic (long-term) daphnia toxicity:
no data available

Acute (short-term) algae toxicity:
no data available

Chronic (long-term) algae toxicity:
no data available

Persistence and degradability
no data available

Bioaccumulative potential
Partition coefficient: n-octanol/water: no data available

Mobility in soil:
no data available

Results of PBT/vPvB assessment
no data available

Other adverse effects
no data available

SECTION 13: Disposal considerations

Waste treatment methods

Appropriate disposal / Product
Dispose according to local legislation. Consult the appropriate local waste disposal expert about waste disposal.

Waste code product: no data available

Appropriate disposal / Package
Dispose according to local legislation. Handle contaminated packages in the same way as the substance itself.

Additional information
no data available

SECTION 14: Transport information

Land transport (ADR/RID/DOT)

UN-No.:	2924
Proper Shipping Name:	FLAMMABLE LIQUID, CORROSIVE, N.O.S. (2-PROPANOL / POTASSIUM HYDROXIDE)
Class(es):	3
Classification code:	FC
Hazard label(s):	3+8
Packing group:	II
Environmental hazards:	No
Special precautions for user:	
Hazard identification number (Kemler No.):	338
Tunnel restriction code:	D/E (Passage forbidden through tunnels of category D when carried in bulk or in tanks. Passage forbidden through tunnels of category E.)

Sea transport (IMDG)

UN-No.:	2924
Proper Shipping Name:	FLAMMABLE LIQUID, CORROSIVE, N.O.S. Base (2-PROPANOL / POTASSIUM HYDROXIDE)
Class(es):	3
Classification code:	
Hazard label(s):	3+8
Packing group:	II
Environmental hazards:	No
MARINE POLLUTANT:	No

Special precautions for user:

Segregation group:	-
EmS-No.	F-E S-C

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
not relevant

Air transport (ICAO-TI / IATA-DGR)

UN-No.:	2924
Proper Shipping Name:	FLAMMABLE LIQUID, CORROSIVE, N.O.S., Base (2-PROPANOL / POTASSIUM HYDROXIDE)
Class(es):	3
Classification code:	FC
Hazard label(s):	3+8
Packing group:	II
Special precautions for user	not relevant

SECTION 15: Regulatory information

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

General rules

Water hazard class (WGK):	slightly hazardous to water (WGK 1)

California Prop 65 Components

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

Chemical Safety Assessment

no data available

SECTION 16: Other information

Abbreviations and acronyms

ACGIH - American Conference of Governmental Industrial Hygiensts
ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road
AGS - Committee on Hazardous Substances (Ausschuss für Gefahrstoffe)
CLP - Regulation on Classification, Labelling and Packaging of Substances and Mixtures
DFG - German Research Foundation (Deutsche Forschungsgemeinschaft)
DOT – U.S. Department of Transportation
Gestis - Information system on hazardous substances of the German Social Accident Insurance (Gefahrstoffinformationssystem der Deutschen Gesetzlichen Unfallversicherung)
IATA-DGR - International Air Transport Association-Dangerous Goods Regulations
ICAO-TI - International Civil Aviation Organization-Technical Instructions
IMDG - International Maritime Code for Dangerous Goods
LTV - Long Term Value
NIOSH - National Institute for Occupational Safety and Health
OSHA - Occupational Safety & Health Administration
PBT - Persistent, Bioaccumulative and Toxic
RID - Regulation concerning the International Carriage of Dangerous Goods by Rail
STV - Short Term Value
SVHC - Substances of Very High Concern
vPvB - very Persistent, very Bioaccumulative

Additional information

Indication of changes: general update

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.