
1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: Potassium Hydroxide Solution 40% VP
Catalog Number: RP89
Product Use: For laboratory use only

Manufacturer's Name: Dalynn Biologicals Inc.
Supplier's Name: Dalynn Biologicals Inc.
Address: 3253 – 34 Avenue NE
Calgary, AB, Canada
T1Y 6X2

Telephone: 1-888-404-4045
Fax: (403) 250-9010
Chemical Emergency: 1-613-996-6666
Phone Number Only

2. HAZARD IDENTIFICATION**Emergency Overview****Target Organs**

Eyes, Skin

GHS Classification

Corrosive to metals (Category 1)
Acute toxicity, Oral (Category 4)
Skin corrosion/irritation (Category 1A)
Serious eye damage/eye irritation (Category 1)
Acute aquatic toxicity (Category 3)

GHS Label Elements, Including Precautionary Statements

Pictogram



Signal word

Danger

Hazard statement(s)

H290 Corrosive to metals
H302 Harmful if swallowed
H314 Causes severe skin burns and eye damage.
H402 Harmful to aquatic life

Precautionary statement(s)

P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.

P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 + P310
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P361 + P364 Take off immediately all contaminated clothing and wash it before reuse.
P391 Collect spillage.
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P501 Dispose of contents/ container to an approved waste disposal plant.

HMIS Classification

Health Hazard: 3
Flammability: 0
Physical Hazards: 0

Potential Health Effects

Inhalation May be harmful if inhaled. May cause respiratory tract irritation. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin May be harmful or toxic if absorbed through skin. May causes skin irritation or burns depending on duration.
Eyes May cause eye irritation or burns on contact. May cause permanent damage to the eyes and vision loss depending on duration.
Ingestion Toxic if swallowed in sufficient quantity. Mixture is caustic and will cause burns if ingested.

3. COMPOSITION & INFORMATION ON INGREDIENTS

INGREDIENT	%	CAS-No.	EC-No.	Index-No.
Potassium hydroxide	40.0	1310-58-3	215-181-3	019-002-00-8
Water	60.0	7732-18-5	231-791-2	-

4. FIRST AID MEASURES

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move affected individual out of affected area.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Take victim to hospital and consult a physician.

In case of skin contact

Take off contaminated clothing. Wash affected area with soap and plenty of water. If feeling unwell, take victim to hospital and consult a physician.

In case of eye contact

Flush eyes with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do not induce vomiting. Rinse mouth with water if patient is conscious. Drink two cups of water to dilute stomach contents. Take patient to hospital and consult a physician.

5. FIREFIGHTING MEASURES**Conditions of flammability**

Contains mostly water therefore the flammability hazard is minimal.

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special protective equipment for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

Hazardous combustion products

Hazardous decomposition products formed under fire conditions: carbon oxides (ie. carbon dioxides, carbon monoxide), potassium oxides, hydrogen chloride gas

Explosion data – sensitivity to mechanical impact

Not sensitive to mechanical impact

Explosion data – sensitivity to static discharge

Not sensitive to static discharge

6. ACCIDENTAL RELEASE MEASURES**Personal precautions**

Wear respiratory protection. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Collect spillage and hold for disposal.

Methods and materials for containment and cleaning up

Wearing appropriate safety gear including chemical resistant gloves and dust mask or respirator, soak up with inert absorbent material or paper towels. Place in a sealed container and hold for disposal.

7. HANDLING AND STORAGE**Precautions for safe handling**

Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Use in area with adequate ventilation.

Conditions for safe storage

Store at refrigerated conditions, tightly closed, away from direct light or sunlight.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value	Control parameters	Basis
Potassium hydroxide	1310-58-3	(C)	2.0 mg/m3	Canada. Alberta. Occupational Health and Safety Code (table 2:OEL)
		CEV	2.0 mg/m3	Canada. Ontario OELs
		C	2.0 mg/m3	Canada. British Columbia OEL
Remarks	Occupational exposure limits is based on irritation effects and its adjustment to compensate for unusual work schedules is not required			
		C	2.0 mg/m3	Canada. Quebec. Regulation respecting occupational health and safety, schedule 1, Part 1
		C	2.0 mg/m3	USA. ACGIH Threshold Limit Values (TLV)

Engineering measures

Ensure adequate ventilation especially in confined areas. If desired, use mechanical exhaust or laboratory fumehood to avoid exposure.

Personal protective equipment

Respiratory protection

Use in area with adequate ventilation. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type ABEK (EN14387) respirator cartridges as a backup to engineering controls. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hand protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands after use.

Eye protection

Face shield and/or safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166 (EU).

Skin and body protection

Wear appropriate clothing such as a lab coat that covers as much of the body as possible. Complete suit can also be worn if desired.

Hygiene measures

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form Liquid

Color Clear

Safety data

pH > 12.0

Melting point/ No data available

freezing point	
Boiling point	No data available
Flash point	No data available
Ignition temperature	No data available
Auto ignition temperature	No data available
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor pressure	No data available
Density	No data available
Water solubility	soluble
Partition coefficient/ n-octanol/water	No data available
Relative vapor density	No data available
Odour	No data available
Odour threshold	No data available
Evaporation rate	No data available

10. STABILITY AND REACTIVITY

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

No data available

Materials to avoid

Oxidizing agents, metals, organic materials, peroxides, nitro compounds, acroleine, acetaldehyde, carbides, phosphorus, chloro-organic compounds

Hazardous decomposition products

Other decomposition products – No data available

Hazardous decomposition products formed under fire conditions – Carbon oxides, potassium oxides, hydrogen chloride gas

Hazardous polymerization

Hazardous polymerization does not occur

Hazardous reactions

None under normal processing

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral LD50

LD50 Oral – Rat – 284 mg/kg (potassium hydroxide)

Inhalation LC50
No data available

Dermal LD50
No data available

Other information on acute toxicity
No data available

Skin corrosion/irritation
Skin - Rabbit Result: Severe skin irritation - 24 h

Serious eye damage/eye irritation
Eyes - Rabbit Result: Corrosive to eyes (OECD Test Guideline 405)

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
This table below indicates whether each agency has listed any ingredient as a carcinogen

Component	CAS-No	IARC	NTP	ACGIH	OSHA	Mexico
Water	7732-18-5	Not listed	Not listed	Not listed	Not listed	Not listed
Potassium hydroxide	64-19-7	Not listed	Not listed	Not listed	Not listed	Not listed

IARC: (International Agency for Research on Cancer)

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Group 1 - Carcinogenic to Humans Group

2A - Probably Carcinogenic to Humans Group

2B - Possibly Carcinogenic to Humans

NTP: (National Toxicity Program)

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Known - Known Carcinogen

Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

ACGIH: (American Conference of Governmental Industrial Hygienists)

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A1 - Known Human Carcinogen

A2 - Suspected Human Carcinogen

A3 - Animal Carcinogen

Reproductive toxicity
No data available

Teratogenicity
No data available

Specific target organ toxicity – single exposure (GHS)
No data available

Specific target organ toxicity – repeated exposure (GHS)
No data available

Aspiration hazard
No data available

Potential Health Effects

Inhalation	May be harmful if inhaled. May cause respiratory tract irritation. Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.
Skin	May be harmful or toxic if absorbed through skin. May causes skin irritation or burns depending on duration.
Eyes	May cause eye irritation or burns on contact. May cause permanent damage to the eyes and vision loss depending on duration.
Ingestion	Toxic if swallowed in sufficient quantity. Mixture is caustic and will cause burns if ingested.

Signs and Symptoms of Exposure

The mixture is caustic and will cause burns on contact; symptoms will vary depending on duration of contact. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Synergistic effects

No data available

12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish LC50 - *Gambusia affinis* (Mosquito fish) - 80 mg/l - 96 h

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

PBT and vPvB assessment

No data available

Other adverse effects

No data available

13. DISPOSAL CONSIDERATIONS

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)

Not dangerous goods

IMDG

Not dangerous goods

IATA

Not dangerous goods

15. REGULATORY INFORMATION

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by them.

16. OTHER INFORMATION**Further information**

Copyright 2022 Dalynn Biologicals Inc. The above information is believed to be correct but does not purport to be all inclusive and shall be only used as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Dalynn Biologicals Inc. shall not be held liable for any damage resulting from handling or from contact with the above product.
