

A Geno Technology, Inc. (USA) brand name

Safety Data Sheet

Cat. # P317

Potassium Hydroxide (KOH)

Size: 100g



Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

Date of issue: 05/22/2012 Revision date: 05/11/2017 Version: 7.1

SECTION 1: Identification

Identification

Product form : Substance

Substance name potassium hydroxide

CAS-No. 1310-58-3 : P317 Product code Formula : KOH

: B752 / caustic potash / caustic potash dry / caustic potash, dry solid, flake, bead or granular / Synonyms

caustic potash, solid / caustic potash, solid / hydrate of potash / hydrate of potassium / hydroxide of potash / hydroxide of potassium / lye (=potassium hydroxide) / potash / potash hydrate / potassium hydrate / potassium hydroxide / potassium hydroxide (K(OH)) / potassium hydroxide dry / potassium hydroxide pellets / potassium hydroxide, dry solid, flake, bead or granular / potassium hydroxide, electrolytical, solid / potassium hydroxide, solid /

potassium lye

BIG No 10099

Recommended use and restrictions on use

Use of the substance/mixture : pH control

Supplier

Geno Technology, Inc./ G-Biosciences 9800 Page Avenue Saint Louis, 63132-1429 - United States T 800-628-7730 - F 314-991-1504

technical@GBiosciences.com - www.GBiosciences.com

Emergency telephone number

Emergency number : Chemtrec 1-800-424-9300 (USA/Canada), +1-703-527-3887 (Intl)

SECTION 2: Hazard(s) identification

Classification of the substance or mixture

GHS US classification

Acute toxicity (oral) Category 4 H302 Harmful if swallowed

Skin corrosion/irritation Category 1A H314 Causes severe skin burns and eye damage

Full text of H statements: see section 16

GHS Label elements, including precautionary statements

GHS US labeling

Hazard pictograms (GHS US)





Signal word (GHS US) : Danger

Hazard statements (GHS US) : H302 - Harmful if swallowed

H314 - Causes severe skin burns and eye damage

Precautionary statements (GHS US) : P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

P264 - Wash hands, forearms and face thoroughly after handling.

P270 - Do not eat, drink or smoke when using this product.

P280 - Wear protective gloves/protective clothing/eye protection/face protection. P301+P312 - If swallowed: Call a poison center or doctor if you feel unwell 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/shower

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 P310 - Immediately call a poison center or doctor

P321 - Specific treatment (see supplemental first aid instruction on this label)

P330 - Rinse mouth.

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P363 - Wash contaminated clothing before reuse.

P405 - Store locked up.

P501 - Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation

Other hazards which do not result in classification 2.3.

No additional information available

Unknown acute toxicity (GHS US)

Not applicable

SECTION 3: Composition/Information on ingredients

Substances

Substance type : Mono-constituent

Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
potassium hydroxide (Main constituent)	B752 / caustic potash / caustic potash dry / caustic potash, dry solid, flake, bead or granular / caustic potash, solid / caustic potash, solid / caustic potash, solid / hydrate of potash / hydroxide of potassium / hydroxide of potash / hydroxide of potassium / lye (=potassium hydroxide) / potash / potash hydrate / potash lye / potassium hydrate / potassium hydroxide (K(OH)) / potassium hydroxide potassium hydroxide potassium hydroxide potassium hydroxide, dry / potassium hydroxide, dry solid, flake, bead or granular / potassium hydroxide, electrolytical, solid / potassium hydroxide, solid / potassium lye	(CAS-No.) 1310-58-3	100	Acute Tox. 4 (Oral), H302 Skin Corr. 1A, H314

Full text of hazard classes and H-statements : see section 16

3.2. **Mixtures**

Not applicable

SECTION 4: First-aid measures

7.1. Description of mist aid measures	4.1.	Description	of first aid	measures
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4.1. Description of first aid measures	
First-aid measures general	: Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital.
First-aid measures after inhalation	: Remove the victim into fresh air. Doctor: administration of corticoid spray. Respiratory problems: consult a doctor/medical service.
First-aid measures after skin contact	: Wash immediately with lots of water (15 minutes)/shower. Do not apply (chemical) neutralizing agents. Remove clothing while washing. Do not remove clothing if it sticks to the skin. Cover wounds with sterile bandage. Consult a doctor/medical service. If burned surface > 10%: take victim to hospital.
First-aid measures after eye contact	: Remove contact lenses, if present and easy to do. Continue rinsing. Rinse immediately with plenty of water for 15 minutes. Cover eyes aseptically. Do not apply neutralizing agents. Take victim to an ophthalmologist.
First-aid measures after ingestion	: Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Do not induce vomiting. Do not give activated charcoal. Immediately consult a doctor/medical service. Call Poison Information Centre (www.big.be/antigif.htm). Ingestion of large quantities: immediately to hospital. Take the container/vomit to the doctor/hospital. Do not give chemical antidote.
4.2. Most important symptoms and eff	ects (acute and delayed)

4.2. Most important symptoms and effe	cts (acute and delayed)	
Potential Adverse human health effects and symptoms	: Harmful if swallowed. Causes severe skin burns. Irritant to the respiratory organs. Causes serious eye damage.	
Symptoms/effects after inhalation	: AFTER INHALATION OF DUST/MIST: Dry/sore throat. Corrosion of the upper respiratory tr Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible oedema the upper respiratory tract. Possible inflammation of the respiratory tract. Possible laryngeal spasm/oedema. Risk of pneumonia.	a of
Symptoms/effects after skin contact	: Caustic burns/corrosion of the skin. Slow-healing wounds.	
Symptoms/effects after eye contact	: Corrosion of the eye tissue. Permanent eye damage. Blindness.	
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Symptoms/effects after ingestion

: Abdominal pain. Difficulty in swallowing. Possible esophageal perforation. Irritation of the oral mucous membranes. Burns to the gastric/intestinal mucosa. Blood in vomit. AFTER INGESTION OF HIGH QUANTITIES: Change in the haemogramme/blood composition. Disturbances of heart rate. FOLLOWING SYMPTOMS MAY APPEAR LATER: Bleeding of the gastrointestinal tract. Low arterial pressure. Blood in stool. Shock.

Chronic symptoms : No effects known.

4.3. Immediate medical attention and special treatment, if necessary

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media : Adapt extinguishing media to the environment for surrounding fires.

5.2. Specific hazards arising from the chemical

Fire hazard : DIRECT FIRE HAZARD: Non combustible. INDIRECT FIRE HAZARD: Reactions involving a

fire hazard: see "Reactivity Hazard".

Explosion hazard : INDIRECT EXPLOSION HAZARD: Reactions with explosion hazards: see "Reactivity Hazard".

5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Cool tanks/drums with water spray/remove them into safety. Take account of toxic fire-fighting

water. Use water moderately and if possible collect or contain it.

Protection during firefighting : Heat/fire exposure: compressed air/oxygen apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment : Gloves. Face-shield. Corrosion-proof suit. Dust cloud production: compressed air/oxygen

apparatus.

Emergency procedures : Mark the danger area. Avoid ingress of water in the containers. Prevent dust cloud formation.

Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity

hazard: consider evacuation.

Measures in case of dust release : In case of dust production: keep upwind. Dust production: have neighbourhood close doors and

windows.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information

refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Prevent soil and water pollution. Prevent spreading in sewers.

6.3. Methods and material for containment and cleaning up

For containment : Contain released product, pump into suitable containers. Plug the leak, cut off the supply. Dam

up the solid spill. Knock down/dilute dust cloud with water spray. Take account of toxic/corrosive precipitation water. Hazardous reaction: measure explosive gas-air mixture.

Reaction: dilute combustible gas/vapour with water curtain.

Methods for cleaning up : Collect the spill only if it is in a dry state. Wetted substance: cover with dry sand/earth. Scoop solid spill into closing containers. Carefully collect the spill/leftovers. Take collected spill to

solid spill into closing containers. Carefully collect the spill/leftovers. Take collected spill to manufacturer/competent authority. Small quantities of liquid spill: neutralize with dilute acid solution. Wash away neutralized product with plentiful water. Clean contaminated surfaces with

an excess of water. Wash clothing and equipment after handling.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling

: Avoid raising dust. Measure the concentration in the air regularly. Carry operations in the open/under local exhaust/ventilation or with respiratory protection. Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Use corrosionproof equipment. Thoroughly clean/dry the installation before use. Do not discharge the waste into the drain. Avoid contact of substance with water. Keep container tightly closed.

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Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this product.

Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

Storage temperature : 20 °C

Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.

Information on mixed storage : KEEP SUBSTANCE AWAY FROM: combustible materials. oxidizing agents. (strong) acids.

highly flammable materials. metals. organic materials. water/moisture.

Storage area : Store in a dry area. Keep container in a well-ventilated place. Keep locked up. Provide for a tub

to collect spills. Unauthorized persons are not admitted. Meet the legal requirements.

Special rules on packaging : SPECIAL REQUIREMENTS: hermetical. watertight. corrosion-proof. dry. clean. correctly

labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: steel. stainless steel. carbon steel. iron. nickel. cardboard. synthetic

material. glass. stoneware/porcelain. MATERIAL TO AVOID: lead. aluminium. copper. tin. zinc.

bronze. polyethylene.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

	potassium hydroxide (1310-58-3)	
USA - ACGIH - Occupational Exposure Limits		
	ACGIH Ceiling (mg/m³)	2 mg/m³

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

Materials for protective clothing:

GIVE EXCELLENT RESISTANCE: butyl rubber. natural rubber. neoprene. nitrile rubber. PVC. viton. GIVE GOOD RESISTANCE: chloroprene rubber. chlorosulfonated polyethylene. tetrafluoroethylene. polyethylene/ethylenevinylalcohol. PVC. GIVE POOR RESISTANCE: leather. natural fibres. PVA

Hand protection:

Gloves

Eye protection:

Face shield

Skin and body protection:

Corrosion-proof clothing. In case of dust production: head/neck protection

Respiratory protection:

Dust production: dust mask with filter type P3. Self-contained breathing apparatus if conc. in air > 1 vol %

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Solid

Appearance : Solid in various shapes. Powder.

Color : White to light yellow

Odor : Odourless

Odor threshold : No data available pH : 13.5 (0.60 %)

Melting point : 360 °C

Freezing point : Not applicable

Boiling point : 1320 °C

Flash point : Not applicable

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Relative evaporation rate (butyl acetate=1) : No data available Flammability (solid, gas) : Non flammable. Vapor pressure : < 0.1 hPa (20 °C) Relative vapor density at 20 °C : Not applicable Relative density : 2 (20 °C)

Specific gravity / density : 2044 kg/m³ (20 °C) Molecular mass : 56.11 g/mol

Solubility : Exothermically soluble in water. Soluble in ethanol. Soluble in glycerol.

Water: 112 g/100ml

Log Pow No data available Auto-ignition temperature : Not applicable Decomposition temperature No data available No data available Viscosity, kinematic Viscosity, dynamic : No data available Not applicable **Explosion limits** Explosive properties : No data available Oxidizing properties : No data available

9.2. Other information

SADT : Not applicable

VOC content : 0 %

Other properties : Translucent. Hygroscopic. Basic reaction.

SECTION 10: Stability and reactivity

10.1. Reactivity

Absorbs the atmospheric CO2. Violent to explosive reaction with many compounds e.g.: with organic material, with (some) halogens and with (some) acids: heat release resulting in increased fire or explosion risk. Violent exothermic reaction with water (moisture). Reacts on exposure to water (moisture) with combustible materials: risk of spontaneous ignition.

10.2. Chemical stability

Hygroscopic. Absorbs the atmospheric CO2.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Hazardous decomposition products.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.

Acute toxicity (dermal) : Not classified

Acute toxicity (inhalation) : Not classified

potassium hydroxide (1310-58-3)	
LD50 oral rat	333 mg/kg (Equivalent or similar to OECD 425, Rat, Male, Experimental value, Oral)
ATE US (oral)	500 mg/kg body weight
Skin corrosion/irritation :	Causes severe skin burns and eye damage.

- LL 40 5 (0.00 %)

pH: 13.5 (0.60 %)

Serious eye damage/irritation : Eye damage, category 1, implicit

pH: 13.5 (0.60 %)

Respiratory or skin sensitization : Not classified Germ cell mutagenicity : Not classified

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Carcinogenicity : Not classified
Reproductive toxicity : Not classified
Specific target organ toxicity – single exposure : Not classified
Specific target organ toxicity – repeated : Not classified

exposure exposure

Aspiration hazard : Not classified
Viscosity, kinematic : No data available

Potential Adverse human health effects and

symptoms

: Harmful if swallowed. Causes severe skin burns. Irritant to the respiratory organs. Causes

serious eye damage.

Symptoms/effects after inhalation : AFTER INHALATION OF DUST/MIST: Dry/sore throat. Corrosion of the upper respiratory tract. Respiratory difficulties. FOLLOWING SYMPTOMS MAY APPEAR LATER: Possible oedema of

the upper respiratory tract. Possible inflammation of the respiratory tract. Possible laryngeal

spasm/oedema. Risk of pneumonia.

Symptoms/effects after skin contact : Caustic burns/corrosion of the skin. Slow-healing wounds.

Symptoms/effects after eye contact : Corrosion of the eye tissue. Permanent eye damage. Blindness.

Symptoms/effects after ingestion : Abdominal pain. Difficulty in swallowing. Possible esophageal perforation. Irritation of the oral

mucous membranes. Burns to the gastric/intestinal mucosa. Blood in vomit. AFTER INGESTION OF HIGH QUANTITIES: Change in the haemogramme/blood composition. Disturbances of heart rate. FOLLOWING SYMPTOMS MAY APPEAR LATER: Bleeding of the

gastrointestinal tract. Low arterial pressure. Blood in stool. Shock.

Chronic symptoms : No effects known.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Before neutralisation, the product may represent a danger to aquatic organisms.

Ecology - air : Not included in the list of substances which may contribute to the greenhouse effect (IPCC).

Not included in the list of fluorinated greenhouse gases (Regulation (EU) No 517/2014). Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).

Ecology - water : Harmful to fishes. Groundwater pollutant. pH shift. Very toxic to plankton.

potassium hydroxide (1310-58-3)	
LC50 fish 1	80 mg/l (96 h, Gambusia affinis, Static system, Fresh water, Experimental value)

12.2. Persistence and degradability

potassium hydroxide (1310-58-3)	
Persistence and degradability	Biodegradability: not applicable.
Chemical oxygen demand (COD)	Not applicable
ThOD	Not applicable
BOD (% of ThOD)	Not applicable

12.3. Bioaccumulative potential

potassium hydroxide (1310-58-3)	
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Waste treatment methods.

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Product/Packaging disposal recommendations

: Treat using the best available techniques before discharge into drains or the aquatic environment. Remove waste in accordance with local and/or national regulations. Hazardous waste shall not be mixed together with other waste. Different types of hazardous waste shall not be mixed together if this may entail a risk of pollution or create problems for the further management of the waste. Hazardous waste shall be managed responsibly. All entities that store, transport or handle hazardous waste shall take the necessary measures to prevent risks of pollution or damage to people or animals. Should not be landfilled with household waste. Recycle/reuse. Remove to an authorized dump (Class I). Immobilize the toxic or harmful components. Precipitate/make insoluble.

Additional information

: Hazardous waste according to Directive 2008/98/EC, as amended by Regulation (EU) No

1357/2014 and Regulation (EU) No 2017/997.

SECTION 14: Transport information

Department of Transportation (DOT)

In accordance with DOT

Transport document description : UN1813 Potassium hydroxide, solid, 8, II

UN-No.(DOT) : UN1813

Proper Shipping Name (DOT) : Potassium hydroxide, solid

Class (DOT) : 8 - Class 8 - Corrosive material 49 CFR 173.136

Packing group (DOT) : II - Medium Danger Hazard labels (DOT) : 8 - Corrosive



DOT Packaging Non Bulk (49 CFR 173.xxx) : 212
DOT Packaging Bulk (49 CFR 173.xxx) : 240

DOT Special Provisions (49 CFR 172.102) : IB8

: IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).

IP2 - When IBCs other than metal or rigid plastics IBCs are used, they must be offered for transportation in a closed freight container or a closed transport vehicle.

IP4 - Flexible, fiberboard or wooden IBCs must be sift-proof and water-resistant or be fitted with a sift-proof and water-resistant liner.

T3 - 2.65 178.274(d)(2) Normal..... 178.275(d)(2)

TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.

DOT Packaging Exceptions (49 CFR 173.xxx) : 154

DOT Quantity Limitations Passenger aircraft/rail : 15 kg

(49 CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 50 kg

CFR 175.75)

DOT Vessel Stowage Location : A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a

passenger vessel.

DOT Vessel Stowage Other : 52 - Stow "separated from" acids

Emergency Response Guide (ERG) Number : 154

Other information : No supplementary information available.

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Transportation of Dangerous Goods

Transport by sea

Not regulated

Air transport

Not regulated

SECTION 15: Regulatory information

15.1. US Federal regulations

potassium hydroxide (1310-58-3)	
Not listed on the United States TSCA (Toxic Substances Control Ad Not subject to reporting requirements of the United States SARA Se	,
CERCLA RQ	1000 lb

15.2. International regulations

CANADA

EU-Regulations

National regulations

No additional information available

15.3. US State regulations

SECTION 16: Other information

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Revision date : 05/11/2017

Full text of H-phrases:

	H302	Harmful if swallowed
	H314	Causes severe skin burns and eye damage
NFF	A health hazard	: 3 - Materials that, under emergency conditions, can cause serious or permanent injury.
NFF	A fire hazard	: 0 - Materials that will not burn under typical fire conditions, including intrinsically noncombustible materials such as concrete, stone, and sand.
NFF	'A reactivity	: 1 - Materials that in themselves are normally stable but can become unstable at elevated temperatures and pressures.

SDS US (GHS HazCom 2012)

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

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