

VD2020016 GA#-HP3

Issuing Date 05-Jun-2018

Revision Date 18-May-2020

Revision A

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Product identifier

Product Name GA#-HP3

Other means of identification

Product Codes(s) 11324596

UN/ID no. UN1824

Synonyms None

Recommended use of the chemical and restrictions on use

Recommended Use reagent

Details of the supplier of the safety data sheet

Manufacturer Address

Illumina, Inc.
5200 Illumina Way
San Diego, CA 92122 USA

Company Phone Number

1-858-809-ILMN
1-858-202-4566

E-mail address

SDS@illumina.com

www.illumina.com

Emergency telephone number

24 Hour Emergency Phone Number 1-760-476-3962

2. HAZARDS IDENTIFICATION

GHS Classification

OSHA Regulatory Status

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200).

Skin corrosion/irritation	Category 1 Sub-category A
Serious eye damage/eye irritation	Category 1

Label elements

Emergency Overview

Signal word

Danger

Hazard statements

Causes severe skin burns and eye damage



Appearance Colorless liquid

Physical state Liquid

Odor Odorless

Precautionary Statements – Prevention

Do not breathe dust/fume/gas/mist/vapors/spray.
 Wash face, hands and any exposed skin thoroughly after handling.
 Wear protective gloves/protective clothing/eye protection/face protection.
 Contaminated work clothing should not be allowed out of the workplace.

Precautionary Statements – Response

Immediately call a POISON CENTER or doctor/physician.

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.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Wash contaminated clothing before reuse.

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Immediately call a POISON CENTER or doctor/physician.

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting.

Precautionary Statements – Storage

Store locked up.

Precautionary Statements – Disposal

Dispose of in accordance with federal, state and local regulations.

Hazards not otherwise classified (HNOC)

Not applicable.

Other Information

Unknown acute toxicity 8 % of the mixture consists of ingredient(s) of unknown toxicity.

3. COMPOSITION/INFORMATION ON INGREDIENTS

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Chemical Name	CAS No.	Weight-%	Trade Secret
Sodium hydroxide	1310-73-2	5–10	*

* The exact percentage (concentration) of composition has been withheld as a trade secret.

4. FIRST AID MEASURES

Description of first aid measures

General Advice	Immediate medical attention is required.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Keep eye wide open while rinsing. Do not rub affected area. Immediate medical attention is required. Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes.
Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
Inhalation	Remove to fresh air. Call a physician or poison control center immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
Ingestion	Immediate medical attention is required. Do NOT induce vomiting. Drink plenty of water. Never give anything by mouth to an unconscious person. Remove from exposure, lie down. Clean mouth with water and drink afterwards plenty of water. Call a physician or poison control center immediately.
Self-protection of the first aider	Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

Most important symptoms and effects, both acute and delayed

Symptoms Causes severe skin burns and eye damage. Redness. Blistering.

Indication of any immediate medical attention and special treatment needed**Note to physicians**

Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Do not give chemical antidotes. Asphyxia from glottal edema may occur. Marked decrease in blood pressure may occur with moist rales, frothy sputum, and high pulse pressure. Treat symptomatically.

5. FIRE-FIGHTING MEASURES**Suitable extinguishing media**

Water, Water spray (fog), Foam, Dry chemical, Carbon dioxide (CO2).

Unsuitable extinguishing media

None known.

Specific hazards arising from the chemical

The product causes burns of eyes, skin and mucous membranes. Thermal decomposition can lead to release of irritating and toxic gases and vapors. In the event of fire and/or explosion do not breathe fumes.

Hazardous combustion products

Carbon oxides.

Explosion data

Sensitivity to Mechanical Impact None
Sensitivity to Static Discharge None

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures****Personal precautions**

Use personal protective equipment as required. Evacuate personnel to safe areas. Avoid contact with skin, eyes or clothing. Keep people away from and upwind of spill/leak.

For emergency responders

Use personal protection recommended in Section 8. Keep unnecessary personnel away.

Environmental precautions**Environmental precautions**

Do not allow into any sewer, on the ground or into any body of water. Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains. See Section 12 for additional Ecological Information.

Methods and material for containment and cleaning up**Methods for containment**

Prevent further leakage or spillage if safe to do so. Dike far ahead of liquid spill for later disposal.

Methods for cleaning up

Dike far ahead of liquid spill for later disposal. Soak up with inert absorbent material. Take up mechanically, placing in appropriate containers for disposal. Clean contaminated surface thoroughly. Prevent product from entering drains. Dam up. After cleaning, flush away traces with water.

Prevention of secondary hazards

Clean contaminated objects and areas thoroughly observing environmental regulations.

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

Avoid contact with skin, eyes or clothing. Ensure adequate ventilation, especially in confined areas. Use personal protective equipment as required. In case of insufficient ventilation, wear suitable respiratory equipment. Use only with adequate ventilation and in closed systems.

Conditions for safe storage, including any incompatibilities

Storage Conditions	Keep container tightly closed in a dry and well-ventilated place. Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.
Incompatible materials	Strong oxidizing agents. Acids. Incompatible with strong acids and bases. Incompatible with oxidizing agents.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Sodium hydroxide 1310-73-2	Ceiling: 2 mg/m ³	TWA: 2 mg/m ³ (vacated) Ceiling: 2 mg/m ³	IDLH: 10 mg/m ³ Ceiling: 2 mg/m ³

NIOSH IDLH Immediately Dangerous to Life or Health

Other Information	Vacated limits revoked by the Court of Appeals decision in AFL-CIO v. OSHA, 965 F.2d 962 (11th Cir., 1992).
--------------------------	---

Appropriate engineering controls

Engineering Controls	Showers Eyewash stations Ventilation systems
-----------------------------	--

Individual protection measures, such as personal protective equipment

Eye/face protection	Wear tight-sealing safety glasses with side shields (or goggles).
Skin and body protection	Wear chemical-resistant gloves, footwear and protective clothing appropriate for risk of exposure. Contact glove manufacturer for specific information.
Respiratory protection	If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.
General Hygiene Considerations	When using, do not eat, drink or smoke. Wash contaminated clothing before reuse. Avoid contact with skin, eyes or clothing. Keep away from food, drink and animal feeding stuffs. Wear suitable gloves and eye/face protection. Take off all contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

Physical state	Liquid
Appearance	Colorless liquid
Odor	Odorless
Color	Colorless
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Methods</u>
pH	Alkaline	
Melting point / freezing point	No data available	
Boiling point / boiling range		
Flash point		
Evaporation rate	No data available	
Flammability (solid, gas)	No data available	
Flammability Limit in Air		
Upper flammability or explosive limits:	No data available	
Lower flammability or explosive limits:	No data available	
Vapor pressure	No data available	

Vapor density	No data available
Specific gravity	No data available
Water solubility	No data available
Solubility in other solvents	No data available
Partition coefficient	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Kinematic viscosity	No data available
Dynamic viscosity	No data available
Explosive properties	No unusual fire or explosion hazards noted.
Oxidizing properties	No data available

Other Information

Softening point	No data available
Molecular weight	No data available
VOC content (%)	No data available
Liquid density	No data available
Bulk density	No data available

10. STABILITY AND REACTIVITY

Reactivity**Chemical stability**

Stable under normal conditions. Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Hazardous polymerization

Hazardous polymerization does not occur.

Conditions to avoid

Exposure to air or moisture over prolonged periods.

Incompatible materials

Strong oxidizing agents. Acids. Incompatible with strong acids and bases. Incompatible with oxidizing agents.

Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapors.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure**Product Information**

Inhalation	May be harmful if inhaled.
Eye Contact	Causes serious eye damage.
Skin Contact	Harmful in contact with skin. Causes burns.
Ingestion	May be harmful if swallowed.

Component Information

Chemical Name	Oral LD50	Dermal LD50	Inhalation LC50
Sodium hydroxide 1310-73-2	-	= 1350 mg/kg (Rabbit)	-

Information on toxicological effects

Symptoms Causes severe skin burns and eye damage. Redness. Blistering.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation	Causes severe burns.
Serious eye damage/eye irritation	Risk of serious damage to eyes.
Irritation	May cause irritation of respiratory tract.
Corrosivity	Corrosive to living tissue.
Skin sensitization	Not classified.
Respiratory sensitization	Not classified.
Germ cell mutagenicity	Not classified.
Carcinogenicity	This product does not contain any carcinogens or potential carcinogens as listed by OSHA, IARC or NTP.
Reproductive toxicity	Not classified.
STOT - single exposure	May cause damage to organs.
STOT - repeated exposure	Not classified.
Chronic toxicity	Chronic exposure to corrosive fumes/gases may cause erosion of the teeth followed by jaw necrosis. Bronchial irritation with chronic cough and frequent attacks of pneumonia are common. Gastrointestinal disturbances may also be seen. Avoid repeated exposure. Possible risk of irreversible effects. May cause adverse effects on the bone marrow and blood-forming system.
Target organ effects	Eyes, Respiratory system, Skin, Blood.
Aspiration hazard	Not classified.
Other adverse effects	No information available.

Numerical measures of toxicity – Product Information

Unknown acute toxicity 8 % of the mixture consists of ingredient(s) of unknown toxicity.

12. ECOLOGICAL INFORMATION

Ecotoxicity

0 % of the mixture consists of components(s) of unknown hazards to the aquatic environment.

Chemical Name	Algae/aquatic plants	Fish	Crustacea
Sodium hydroxide 1310-73-2	-	45.4 mg/L: LC50 96 h Oncorhynchus mykiss static	-

Persistence and degradability

Not a PBT or vPvB substance or mixture.

Bioaccumulation

No data available.

Mobility

No data available.

Other adverse effects

No data available.

Ozone

Not classified.

Ozone depletion potential (ODP)

No information available.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Disposal of wastes This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261).

Contaminated packaging Do not reuse container.

US EPA Waste Number D002

This product contains one or more substances that are listed with the State of California as a hazardous waste.

Chemical Name	California Hazardous Waste Status
Sodium hydroxide 1310-73-2	Toxic Corrosive

14. TRANSPORT INFORMATION

DOT

UN/ID no. UN1824
Proper shipping name Sodium hydroxide solution
Hazard Class 8
Packing Group II
Description UN1824, Sodium hydroxide solution, 8, II, RQ

TDG

UN/ID no. UN1824
Proper shipping name Sodium hydroxide solution
Hazard Class 8
Packing Group II
Description UN1824, Sodium hydroxide solution, 8, II

MEX

UN/ID no. UN1824
Proper shipping name Sodium hydroxide solution
Hazard Class 8
Packing Group II
Description UN1824, Sodium hydroxide solution, 8, II

ICAO (air)

UN/ID no. UN1824
Proper shipping name Sodium hydroxide solution
Hazard Class 8
Packing Group II
Description UN1824, Sodium hydroxide solution, 8, II

IATA

UN/ID no. UN1824
Proper shipping name Sodium hydroxide solution
Hazard Class 8
Packing Group II
Description UN1824, Sodium hydroxide solution, 8, II

IMDG

UN/ID no. UN1824
Proper shipping name Sodium hydroxide solution
Hazard Class 8
Packing Group II
Description UN1824, Sodium hydroxide solution, 8, II

RID

UN/ID no.	UN1824
Proper shipping name	Sodium hydroxide solution
Hazard Class	8
Packing Group	II
Description	UN1824, Sodium hydroxide solution, 8, II

ADR

UN/ID no.	UN1824
Proper shipping name	Sodium hydroxide solution
Hazard Class	8
Packing Group	II
Description	UN1824, Sodium hydroxide solution, 8, II, (E)

ADN

UN/ID no.	UN1824
Proper shipping name	Sodium hydroxide solution
Hazard Class	8
Packing Group	III
Description	UN1824, Sodium hydroxide solution, 8, II

15. REGULATORY INFORMATION**International Inventories**

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Does not comply
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
INSQ	This product complies with INSQ

Legend

TSCA—United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL—Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS—European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
ENCS—Japan Existing and New Chemical Substances
IECSC—China Inventory of Existing Chemical Substances
KECL—Korean Existing and Evaluated Chemical Substances
PICCS—Philippines Inventory of Chemicals and Chemical Substances
AICS—Australian Inventory of Chemical Substances
INSQ—Mexican national Inventory of Chemical Substances

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.

SARA 311/312 Hazard Categories

Acute health hazard	Yes
Chronic Health Hazard	Yes
Fire hazard	No
Sudden release of pressure hazard	No
Reactive Hazard	No

CWA (Clean Water Act)

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Sodium hydroxide 1310-73-2	1000 lb	-	-	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302).

Chemical Name	Hazardous Substances RQs	CERCLA/SARA RQ	Reportable Quantity (RQ)
Sodium hydroxide 1310-73-2	1000 lb	-	RQ 1000 lb final RQ RQ 454 kg final RQ

US State Regulations

California Proposition 65

This product does not contain any Proposition 65 chemicals.

U.S. State Right-to-Know Regulations

Chemical Name	New Jersey	Massachusetts	Pennsylvania
Water 7732-18-5	-	-	X
Sodium hydroxide 1310-73-2	X	X	X

U.S. EPA Label Information

EPA Pesticide Registration Number Not applicable

16. OTHER INFORMATION

NFPA	Health Hazards 3	Flammability 1	Instability 0	Physical and Chemical Properties -
HMIS	Health Hazards 3	Flammability 1	Physical Hazards 0	Personal Protection X

Prepared By Illumina Inc.
Issuing Date 05-Jun-2018
Revision Date 18-May-2020
Revision Note Not applicable

Disclaimer

Although reasonable care has been taken in the preparation of this document, Illumina makes no warranties or representations of any kind as to the accuracy or completeness of the information contained herein, and Illumina assumes no responsibility regarding the suitability of this information or the product for the user's intended purposes or for the consequences of use of this information or the use of the product. The user of this (M)SDS and product should make a determination as to the suitability of the information and the product for their particular purpose(s). To the extent provided by applicable law, Illumina shall not be held liable for any damage or expenses of any kind resulting from handling, use, storage, or disposal of the product.

End of Safety Data Sheet