SAFETY DATA SHEET

Republic of Korea

In accordance with the Standard for Classification and Labeling of Chemical Substance and Safety Data Sheet, Article 10 Paragraph 1

Section 1. Chemical product and company identification

A. Product name Sodium Bicarbonate (NaHCO3), 1 kg

Catalogue Number SH30173.09

Article Number 29134266

Registration number Not available.

B. Recommended use of the chemical

Restrictions on use

Uses advised against

Not applicable.

C.

Manufacturer / Supplier

HyClone Laboratories
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Logan, Utah 84321
Phone: (435) 792-8000

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4061 Pasching
AUSTRIA
Phone: +43 7229 64865
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Cytiva Singapore
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Harbourfront Centre
Singapore 099253

Distributor

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+82 2 6201 3800

Emergency telephone number (with hours of operation) 82-2-6201-3800
(9.00 am - 6.00 pm)

Section 2. Hazards identification

A. Hazard classification Not classified.

This product was evaluated in accordance with the Industrial Safety and Health Act and the Chemical Control Act, and determined to be 'not classified'.

B. GHS label elements, including precautionary statements

Signal word No signal word.

Hazard statements No known significant effects or critical hazards.

Precautionary statements

Prevention Not applicable.

Response Not applicable.

Storage Not applicable.

Disposal Not applicable.

C. Other hazards which do not result in classification May form explosible dust-air mixture if dispersed.

Section 3. Composition/information on ingredients

Substance/mixture Substance

Other means of identification Not available.

CAS number/other identifiers

CAS number Not available.

EC number Not available.

Product code SH30173.09

Ingredient name	Common name	Identifiers	%
sodium hydrogencarbonate	Carbonic acid sodium salt (1:1); Carbonic acid monosodium salt; Carbonic acid, monosodium salt; Sodium bicarbonate; Sodium bicarbonate (1:1); Carbonic acid monosodium salt (1:1); Sodium acid carbonate; Bicarbonate of soda; Baking soda; Sodium monohydrogen carbonate; Sodium carbonate	144-55-8	≥90

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

A. Eye contact Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

B. Skin contact Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.

C. Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.

D. Ingestion Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

E. Notes to physician Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Specific treatments No specific treatment.

Protection of first-aiders No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

A. Extinguishing media

Suitable Use dry chemical powder.

Not suitable Avoid high pressure media which could cause the formation of a potentially explosible dust-air mixture.

B. Specific hazards arising from the chemical May form explosible dust-air mixture if dispersed.

Hazardous thermal decomposition products Decomposition products may include the following materials:
carbon dioxide
carbon monoxide
metal oxide/oxides

C. Special protective equipment for fire-fighters Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Special precautions for fire-fighters Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Section 6. Accidental release measures

A. Personal precautions, protective equipment and emergency procedures No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing dust. Put on appropriate personal protective equipment.

B. Environmental precautions Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

C. Methods and materials for containment and cleaning up

Small spill	Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Vacuum or sweep up material and place in a designated, labeled waste container. Dispose of via a licensed waste disposal contractor.
Large spill	Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labeled waste container. Avoid creating dusty conditions and prevent wind dispersal. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

A. Precautions for safe handling

Protective measures	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
Advice on general occupational hygiene	Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.
B. Conditions for safe storage, including any incompatibilities	Store between the following temperatures: 15 to 30°C (59 to 86°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

A. Control parameters

Occupational exposure limits

None.

B. Appropriate engineering controls	Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

C. Personal protective equipment

Respiratory protection	Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.
Eye protection	Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields. If operating conditions cause high dust concentrations to be produced, use dust goggles.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
Skin protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Hygiene measures	Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Section 9. Physical and chemical properties

A. Appearance

Physical state	Solid. [Crystalline powder.]
Color	White.
B. Odor	Not available.
C. Odor threshold	Not available.
D. pH	Not available.
E. Melting/freezing point	Not available.
F. Boiling point/boiling range	Not available.
G. Flash point	Not available.

	Fire point	Not available.
	Burning time	Not available.
	Burning rate	Not available.
H.	**Evaporation rate**	Not available.
I.	**Flammability (solid, gas)**	Not available.
J.	**Lower and upper explosive (flammable) limits**	Not available.
K.	**Vapor pressure**	Not available.
L.	**Solubility**	Not available.
	Solubility in water	Not available.
M.	**Vapor density**	Not available.
N.	**Relative density**	Not available.
O.	**Partition coefficient: n-octanol/water**	Not available.
P.	**Auto-ignition temperature**	Not available.
Q.	**Decomposition temperature**	Not available.
	SADT	Not available.
R.	**Viscosity**	Not available.
	Flow time (ISO 2431)	Not available.
S.	**Molecular weight**	Not applicable.

Section 10. Stability and reactivity

A.	**Chemical stability**	The product is stable.
	Possibility of hazardous reactions	Under normal conditions of storage and use, hazardous reactions will not occur.
B.	**Conditions to avoid**	Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation.
C.	**Incompatible materials**	Reactive or incompatible with the following materials: oxidizing materials
D.	**Hazardous decomposition products**	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

A. **Information on the likely routes of exposure**

Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

Respiratory	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the nose, throat and lungs.
Oral	No known significant effects or critical hazards.
Skin	No known significant effects or critical hazards.
Eyes	Exposure to airborne concentrations above statutory or recommended exposure limits may cause irritation of the eyes.

Over-exposure signs/symptoms

Inhalation	Adverse symptoms may include the following: respiratory tract irritation coughing
Ingestion	No specific data.
Skin contact	No specific data.
Eye contact	Adverse symptoms may include the following: irritation redness

B. **Health hazards**

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
sodium hydrogencarbonate	LD50 Oral	Rat	4220 mg/kg	-

Irritation/Corrosion

Not available.

Sensitization

Not available.

CMR - ISHA Article 42 Public Notice No 2016-41 Occupational Exposure Limits

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Potential chronic health effects

Chronic toxicity

Not available.

General	Repeated or prolonged inhalation of dust may lead to chronic respiratory irritation.
Carcinogenicity	No known significant effects or critical hazards.
Mutagenicity	No known significant effects or critical hazards.
Teratogenicity	No known significant effects or critical hazards.
Developmental effects	No known significant effects or critical hazards.
Fertility effects	No known significant effects or critical hazards.

ATE value

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/l)
Sodium Bicarbonate	4220	N/A	N/A	N/A	N/A
sodium hydrogencarbonate	4220	N/A	N/A	N/A	N/A

Section 12. Ecological information

A. Ecotoxicity

Product/ingredient name	Result	Species	Exposure
sodium hydrogencarbonate	Acute EC50 650000 µg/l Fresh water	Algae - Navicula seminulum	96 hours
	Acute LC50 767.87 mg/l Marine water	Crustaceans - Americamysis bahia	48 hours
	Acute LC50 7550 ppm Fresh water	Fish - Gambusia affinis - Adult	96 hours
	Chronic NOEC 576 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	3 weeks

B. Persistence/degradability

Not available.

C. Bioaccumulative potential

Not available.

D. Mobility in soil

Soil/water partition coefficient (K_{OC}) Not available.

E. Other adverse effects No known significant effects or critical hazards.

Section 13. Disposal considerations

A.	**Disposal methods**	The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.
B.	**Disposal precautions**	This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

UN

A.	**UN number**	Not available.
B.	**Proper shipping name**	Not available.
C.	**Classes**	Not available.
D.	**Packing group**	Not available.
E.	**Marine pollutant**	No.
F.	**Additional information**	-
	Label	

IMDG

A.	**UN number**	Not available.
B.	**Proper shipping name**	Not available.
C.	**Classes**	Not available.
D.	**Packing group**	Not available.
E.	**Marine pollutant**	No.
F.	**Additional information**	-
	Label	

IATA

A.	**UN number**	Not available.
B.	**Proper shipping name**	Not available.
C.	**Classes**	Not available.
D.	**Packing group**	Not available.
E.	**Marine pollutant**	No.
F.	**Additional information**	-
	Label	

Special precautions for user	**Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.
Transport in bulk according to Annex II of MARPOL and the IBC Code	Not available.

Section 15. Regulatory information

A. **Regulation according to ISHA**

ISHA article 37 (Harmful substances prohibited from manufacture)	None of the components are listed.
ISHA article 38 (Harmful substances requiring permission)	None of the components are listed.

Exposure Limits of Chemical Substances and Physical Factors

None of the components have an OEL.

ISHA Enforcement Regs Annex 11-3 (Exposure standards established for harmful factors)	None of the components are listed.

ISHA Enforcement Regs Annex 11-5 (Harmful factors subject to Work Environment Measurement)	None of the components are listed.
ISHA Enforcement Regs Annex 12-2 (Harmful Factors Subject to Special Health Check-up)	None of the components are listed.
Standard of Industrial Safety and Health Annex 12 (Hazardous substances subject to control)	None of the components are listed.

B. Regulation according to Chemicals Control Act

CCA Article 11 (TRI)	None of the components are listed.
CCA Article 18 Prohibited (K-Reach Article 27)	None of the components are listed.
CCA Article 19 Subject to authorization (K-Reach Article 25)	None of the components are listed.
CCA Article 20 Toxic Chemicals (K-Reach Article 20)	Not applicable
CCA Article 20 Restricted (K-Reach Article 27)	None of the components are listed.
CCA Article 39 (Accident Precaution Chemicals)	None of the components are listed.
Existing Chemical Substances Subject to Registration	None of the components are listed.

C.	**Dangerous Materials Safety Management Act**	Not available.
D.	**Wastes regulation**	Dispose of contents and container in accordance with all local, regional, national and international regulations.

E. Regulation according to other foreign laws

Article 2 of Youth Protection Act on Substances Hazardous to Youth	Not applicable.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Republic of Korea	All components are listed or exempted.
Europe	All components are listed or exempted.
United States	All components are listed or exempted.
China	All components are listed or exempted.
Japan	**Japan inventory (ENCS)**: All components are listed or exempted. **Japan inventory (ISHL)**: All components are listed or exempted.

Section 16. Other information

A. References Not available.

B. Date of issue/Date of revision 24 May 2019

C. Version 1

Date of printing **15 April 2020**

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D. Other

Indicates information that has changed from previously issued version.

Key to abbreviations

ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
UN = United Nations

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