SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

- Trade name: BICAR ® USP Grade 1
- Chemical name: Sodium hydrogencarbonate
- Synonyms: Sodium bicarbonate
- Molecular formula: NaHCO3

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

Uses of the Substance / Mixture

- Detergent
- Environmental protection
- Chemical industry
- Purifying flue gas
- Water treatment
- Foaming agent
- Tanning agents
- Manufacture of pulp, paper and paper products
- Blasting Agent

1.3 Details of the supplier of the safety data sheet

Company

SOLVAY CHEMICALS, INC.
3737 Buffalo Speedway,
Suite 800,
Houston, TX 77098
USA
Tel: +1-800-7658292; +1-713-5256800
Fax: +1-713-5257804

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT, CONTACT CHEMTREC (24-Hour Number): 800-424-9300 within the United States and Canada, or 703-527-3887 for international collect calls.

SECTION 2: Hazards identification

Although WHMIS has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects

2.1 Classification of the substance or mixture

Hazardous Products Regulations (WHMIS 2015)

- Not classified as hazardous product under the regulation above.

2.2 Label elements

Hazardous Products Regulations (WHMIS 2015)

- Not labelled as hazardous product under the regulation above.

2.3 Other hazards which do not result in classification

- None known.

SECTION 3: Composition/information on ingredients

3.1 Substance

WHMIS Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [% wt/wt or V/V]
Sodium bicarbonate	144-55-8	>= 98 - <= 100

3.2 Mixture

Not applicable, this product is a substance.

SECTION 4: First aid measures

4.1 Description of first-aid measures

In case of inhalation

- Move to fresh air.
- If symptoms persist, call a physician.

In case of skin contact

- Wash off with soap and water.

In case of eye contact

- Rinse thoroughly with plenty of water, also under the eyelids.
- If eye irritation persists, consult a specialist.

In case of ingestion

- Rinse mouth with water.
- If symptoms persist, call a physician or Poison Control Center immediately.

4.2 Most important symptoms and effects, both acute and delayed

In case of inhalation

Effects

- No hazards to be specially mentioned.
- At high concentrations:
- slight irritation

In case of skin contact

Effects

- No hazards to be specially mentioned.

Repeated or prolonged exposure

- Contact with dust can cause mechanical irritation or drying of the skin.

In case of eye contact

Effects

- Dust contact with the eyes can lead to mechanical irritation.

In case of ingestion

Effects

- Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

- When symptoms persist or in all cases of doubt seek medical advice.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media

- None.

5.2 Special hazards arising from the substance or mixture

- Not combustible.

5.3 Advice for firefighters

Special protective equipment for fire-fighters

- In the event of fire, wear self-contained breathing apparatus.
- Use personal protective equipment.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel

- Evacuate personnel to safe areas.
- Avoid dust formation.

Advice for emergency responders

- Use personal protective equipment.
- Sweep up to prevent slipping hazard.
- Prevent further leakage or spillage.

6.2 Environmental precautions

- Do not flush into surface water or sanitary sewer system.
- Prevent any mixture with an acid into the sewer/drain (gas formations).

6.3 Methods and materials for containment and cleaning up

- Pick up and transfer to properly labeled containers.
- Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

- Refer to protective measures listed in sections 7 and 8.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Ensure adequate ventilation.
- Minimize dust generation and accumulation.
- Avoid contact with skin and eyes.
- Keep away from incompatible products

Hygiene measures

- When using do not eat, drink or smoke.
- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions

- Store in original container.
- Keep in a dry place.
- Keep in properly labeled containers.
- Keep container closed.

- Keep away from:
- Incompatible products

Packaging material

Suitable material
- Paper.
- Polyethylene

Unsuitable material
- No data available

7.3 Specific end use(s)

- Contact your supplier for additional information
- This grade of the product is not intended for pharmaceutical, feed or food applications.

SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Control measures

Engineering measures
- Provide appropriate exhaust ventilation at places where dust is formed.
- Apply technical measures to comply with the occupational exposure limits.

Individual protection measures

Respiratory protection
- Use only respiratory protection that conforms to international/ national standards.
- Respirator with a dust filter

Hand protection
- Impervious gloves

Eye protection
- Safety goggles

Skin and body protection
- Dust impervious protective suit

Hygiene measures
- When using do not eat, drink or smoke.
- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

9.1 Information on basic physical and chemical properties

Appearance	Form:	crystalline, powder
	Physical state:	solid
	Color:	white
Odor	odorless	
Odor Threshold	No data available	
Molecular weight	84.01 g/mol	
pH	8.4 (ca. 8.4 g/l) (77 °F (25 °C)) 8.6 (ca. 52 g/l) pKa: 6.3	
Melting point/freezing point	Melting point/range: Decomposes on heating.	

Initial boiling point and boiling range	Boiling point/boiling range: Thermal decomposition
Flash point	inorganic
Evaporation rate (Butylacetate = 1)	No data available
Flammability (solid, gas)	The product is not flammable.
Flammability / Explosive limit	Explosiveness: Not expected
Autoignition temperature	Not applicable
Vapor pressure	Thermal decomposition
Vapor density	Not applicable
Density	2.21 kg/dm3 Bulk density: 0.5 - 1.3 kg/dm3
Relative density	2.21 - 2.23 (68 °F (20 °C))
Solubility	Water solubility: 69 g/l (32 °F (0 °C))93 g/l (68 °F (20 °C))165 g/l (140 °F (60 °C)) Solubility in other solvents: Alcohol : insoluble
Partition coefficient: n-octanol/water	inorganic
Decomposition temperature	> 122 °F (50 °C)
Viscosity	Viscosity, dynamic : Not applicable
Explosive properties	No data available
Oxidizing properties	Not expected

9.2 Other information

No data available

SECTION 10: Stability and reactivity

10.1 Reactivity

- Incompatible with acids.
- Decomposes slowly on exposure to water.

10.2 Chemical stability

- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

- none

10.4 Conditions to avoid

- Exposure to moisture.
- To avoid thermal decomposition, do not overheat.

10.5 Incompatible materials

- Acids

10.6 Hazardous decomposition products

- none

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity

Sodium bicarbonate	LD50 : > 4,000 mg/kg - Rat , male and female Method: according to a standardized method The product has a low acute toxicity Unpublished reports

Acute inhalation toxicity

Sodium bicarbonate	LC50 - 4.5 h (dust/mist) : > 4.74 mg/l - Rat , male and female Method: according to a standardized method Not classified as hazardous for acute inhalation toxicity according to GHS. Unpublished reports Dust

Acute dermal toxicity

Sodium bicarbonate	No data available

Acute toxicity (other routes of administration)	No data available

Skin corrosion/irritation

Sodium bicarbonate	Rabbit slight irritation Method: OECD Test Guideline 404 Unpublished reports

Serious eye damage/eye irritation

Sodium bicarbonate	Rabbit slight irritation Method: OECD Test Guideline 405 Unpublished reports

Respiratory or skin sensitization	No data available

Mutagenicity

Genotoxicity in vitro

Sodium bicarbonate	Strain: Escherichia coli with and without metabolic activation negative Method: according to a standardized method Published data Ames test with metabolic activation negative Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay) Published data

Genotoxicity in vivo No data available

Carcinogenicity No data available

This product does not contain any ingredient designated as probable or suspected human carcinogens by:
ACGIH

Toxicity for reproduction and development

Toxicity to reproduction / fertility No data available

Developmental Toxicity/Teratogenicity

Sodium bicarbonate	Rat, female, Oral Teratogenicity NOAEL:> 340mg/kg Method: according to a standardized method Highest dose tested, The product is not considered to be embryotoxic / fetotoxic., Unpublished reports Rabbit, female, Oral Teratogenicity NOAEL:> 330mg/kg Method: according to a standardized method Highest dose tested, The product is not considered to be embryotoxic / fetotoxic., Unpublished reports

STOT

STOT-single exposure

Sodium bicarbonate	Routes of exposure: Oral, Inhalation The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria. internal evaluation

STOT-repeated exposure No data available

Experience with human exposure No data available

Aspiration toxicity No data available

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

Sodium bicarbonate	LC50 - 96 h : 7,100 mg/l - Lepomis macrochirus (Bluegill sunfish) flow-through test Analytical monitoring: yes Method: according to a standardized method Unpublished internal reports Not harmful to fish (LC/LL50 > 100 mg/L)

Acute toxicity to daphnia and other aquatic invertebrates

Sodium bicarbonate	EC50 - 48 h : 4,100 mg/l - Daphnia magna (Water flea) flow-through test Analytical monitoring: yes Method: according to a standardized method Unpublished internal reports Not harmful to aquatic invertebrates. (EC/EL50 > 100 mg/L)

Toxicity to aquatic plants	No data available
Toxicity to microorganisms	No data available
Chronic toxicity to fish	No data available

Chronic toxicity to daphnia and other aquatic invertebrates

Sodium bicarbonate	NOEC: > 576 mg/l - 21 Days - Daphnia magna (Water flea) semi-static test Analytical monitoring: no Method: OECD Test Guideline 211 Highest concentration tested Published data No adverse chronic effect observed up to and including the threshold of 1 mg / L.

12.2 Persistence and degradability

Abiotic degradation

Stability in water

Sodium bicarbonate	Product dissociates rapidly to corresponding ions on contact with water. ,

Physical- and photo-chemical elimination No data available

Biodegradation

Biodegradability

Sodium bicarbonate	Not applicable, inorganic substance

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

Sodium bicarbonate	Not applicable, inorganic substance

Bioconcentration factor (BCF)

Sodium bicarbonate	According to the available data on the constituents Not potentially bioaccumulable Expert judgment

12.4 Mobility in soil

Adsorption potential (Koc)

Sodium bicarbonate	According to the available data on the constituents non-significant adsorption internal evaluation

Known distribution to environmental compartments	No data available

12.5 Results of PBT and vPvB assessment

Sodium bicarbonate	Not applicable, inorganic substance

12.6 Other adverse effects

Ecotoxicity assessment

Short-term (acute) aquatic hazard

Sodium bicarbonate	Not harmful to aquatic life (LC/LL50, EC/EL50 > 100 mg/L)

Long-term (chronic) aquatic hazard

Sodium bicarbonate	No adverse chronic effect observed up to and including the threshold of 1 mg / L.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product Disposal

- Contact waste disposal services.
- If recycling is not practicable, dispose of in compliance with local regulations.
- Dilute with plenty of water.
- Neutralize with acid.
- In accordance with local and national regulations.

Advice on cleaning and disposal of packaging

- Where possible recycling is preferred to disposal or incineration.
- Clean container with water.
- Dispose of rinse water in accordance with local and national regulations.
- Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.

SECTION 14: Transport information

TDG

not regulated

DOT
not regulated

NOM
not regulated

IMDG
not regulated

IATA
not regulated

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.

SECTION 15: Regulatory information

15.1 Notification status

Inventory Information	Status
United States TSCA Inventory	- All substances listed as active on the TSCA inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
Australia Inventory of Chemical Substances (AICS)	- Listed on Inventory
Japan. CSCL - Inventory of Existing and New Chemical Substances	- Listed on Inventory
Korea. Korean Existing Chemicals Inventory (KECI)	- Listed on Inventory
China. Inventory of Existing Chemical Substances in China (IECSC)	- Listed on Inventory
Philippines Inventory of Chemicals and Chemical Substances (PICCS)	- Listed on Inventory
Taiwan Chemical Substance Inventory (TCSI)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- All components are listed on the NZIOC inventory. The HSNO status of the product has not been assessed.
EU. European Registration, Evaluation, Authorisation and Restriction of Chemical (REACH)	- When purchased from a Solvay legal entity based in the EEA ("European Economic Area"), this product is compliant with the registration provisions of the REACH Regulation (EC) No. 1907/2006 as all its components are either excluded, exempt, and/or registered. When purchased from a legal entity outside of the EEA, please contact your local representative for additional information.

15.2 National Regulations

Canada. CEPA 1999 Significant New Activity (SNAc) List:

- No substances are subject to a Significant New Activity Notification.

SECTION 16: Other information

Revision Date:

09/18/2019

NFPA (National Fire Protection Association) - Classification

Health	1 slight
Flammability	0 minimal
Instability or Reactivity	0 minimal

HMIS (Hazardous Materials Identification System (Paint & Coating)) - Classification

Health	1 slight
Flammability	0 minimal
Reactivity	0 minimal
PPE	Determined by User; dependent on local conditions

Further information

- Update
- See section 3
- See section 8
- See section 11
- See section 15
- Distribute new edition to clients

- ACGIH	American Conference of Governmental Industrial Hygienists
- OSHA	Occupational Safety and Health Administration
- NTP	National Toxicology Program
- IARC	International Agency for Research on Cancer
- NIOSH	National Institute for Occupational Safety and Health

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information, and belief at the date of its publication. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.