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

1.1 Product identifier

- Trade name: BICAR ® Animal Feed
- 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

- Food/ feedstuff additives
- Detergent
- Chemical industry
- Glass industry
- Foaming agent
- Water treatment
- Environmental protection
- Purifying flue gas
- Animal feedstuff

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 800-424-9300 within the United States and Canada, or 703-527-3887 for international collect calls.

SECTION 2: Hazards identification

Although OSHA 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

HCS 2012 (29 CFR 1910.1200)

- Not a hazardous product according to the OSHA Globally Harmonized System (GHS).
- Not a hazardous product according to the OSHA Globally Harmonized System (GHS).

2.2 Label elements

HCS 2012 (29 CFR 1910.1200)

- Not a hazardous product according to the OSHA Globally Harmonized System (GHS).
- Not a hazardous product according to the OSHA Globally Harmonized System (GHS).

Additional Labeling
- The following percentage of the mixture consists of ingredient(s) with unknown acute toxicity: 2 %

2.3 Other hazards which do not result in classification

- Product dust may be irritating to eyes, skin and respiratory system.

SECTION 3: Composition/information on ingredients

3.1 Substance

Hazardous Ingredients and Impurities

Chemical name	Identification number CAS-No.	Concentration [%]
Carbonic acid sodium salt (1:1)	144-55-8	>= 98

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

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.

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

Flash point	Not applicable, inorganic
Autoignition temperature	The product is not flammable.
Flammability / Explosive limit	no data available

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

Specific hazards during fire fighting

- Not combustible.

Hazardous combustion products:

- none
- Barium oxide
- Other hazardous decomposition products may be formed.

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

- Polypropylene
- Woven plastic material.
- Polyethylene

Unsuitable material
- no data available

7.3 Specific end use(s)

- no data available

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

Components with workplace occupational exposure limits

Ingredients	Value type	Value	Basis
Carbonic acid sodium salt (1:1)	TWA	10 mg/m3	Solvay Acceptable Exposure Limit
Particles not otherwise specified (PNOS)			National Institute for Occupational Safety and Health
	Includes all inert or nuisance dusts, whether mineral, inorganic, not listed specifically in 1910.1000., See Appendix D - Substances with No Established RELs		
Particles not otherwise specified (PNOS)	TWA	15 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
	Form of exposure : total dust All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is the same as the inert or nuisance dust limit of Table Z-3.		
Particles not otherwise specified (PNOS)	TWA	5 mg/m3	Occupational Safety and Health Administration - Table Z-1 Limits for Air Contaminants
	Form of exposure : respirable fraction All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by the Particulates Not Otherwise Regulated (PNOR) limit which is the same as the inert or nuisance dust limit of Table Z-3.		
Particles not otherwise specified (PNOS)	TWA	10 mg/m3	American Conference of Governmental Industrial Hygienists
	Form of exposure : Inhalable fraction		
Particles not otherwise specified (PNOS)	TWA	3 mg/m3	American Conference of Governmental Industrial Hygienists
	Form of exposure : Respirable fraction		
Carbonic acid sodium salt (1:1)	TWA	10 mg/m3	Solvay Acceptable Exposure Limit

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.
- Use NIOSH approved respiratory protection.

Hand protection

- Impervious gloves

Eye protection

- Safety goggles

Skin and body protection
- No special protective equipment required.

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 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)) Water 8.6 (ca. 52 g/l) pKa: 6.3
Melting point/freezing point	Melting point/range: () Decomposition: yes
Initial boiling point and boiling range	Boiling point/boiling range: () Thermal decomposition: yes
Flash point	Not applicable, inorganic
Evaporation rate (Butylacetate = 1)	no data available
Flammability (solid, gas)	The product is not flammable.
Flammability / Explosive limit	Explosiveness: Not expected
Autoignition temperature	The product is not flammable.
Vapor pressure	Thermal decomposition
Vapor density	Not applicable

Density	2.21 kg/dm3 Bulk density: 500 - 1,300 kg/m3
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: Other : soluble Alcohol : slightly soluble
Partition coefficient: n-octanol/water	Not applicable, 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

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

LC50 - 4.5 h (Dust) : > 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

Acute dermal toxicity

no data available

Acute toxicity (other routes of administration)

no data available

Skin corrosion/irritation

Rabbit
slight irritation
Method: OECD Test Guideline 404
Unpublished reports

Serious eye damage/eye irritation

Rabbit
slight irritation
Method: OECD Test Guideline 405
Unpublished reports

Respiratory or skin sensitization

no data available

Mutagenicity

Genotoxicity in vitro

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:
NTP
IARC
OSHA
ACGIH
NTP
IARC
OSHA
ACGIH

Toxicity for reproduction and development

Toxicity to reproduction / fertility no data available

Developmental Toxicity/Teratogenicity

Rat , female
Application Route: Oral
NOAEL teratogenicity: > 340 mg/kg
Method: according to a standardized method
Highest dose tested
The product is not considered to be embryotoxic / fetotoxic.
Unpublished reports

Rabbit , female
Application Route: Oral
NOAEL teratogenicity: > 330 mg/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

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

Aspiration toxicity no data available

SECTION 12: Ecological information

12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

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.

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.

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.

Chronic Toxicity to aquatic plants no data available

12.2 Persistence and degradability

Abiotic degradation

Stability in water

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

Physical- and photo-chemical elimination no data available

Biodegradation

Biodegradability

Not applicable, inorganic substance

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water

Not applicable, inorganic substance

Bioconcentration factor (BCF)

According to the data on the constituents
Not potentially bioaccumulable
Expert judgment

12.4 Mobility in soil

Adsorption potential (Koc)

According to the 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

Not applicable, inorganic substance

12.6 Other adverse effects no data available

Ecotoxicity assessment

Acute aquatic toxicity

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

Chronic aquatic toxicity

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.

Waste Code

- Environmental Protection Agency
- Hazardous Waste – NO

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

DOT
not regulated

TDG
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	- Listed on Inventory
Mexico INSQ (INSQ)	- In compliance with the inventory
Canadian Domestic Substances List (DSL)	- Listed on Inventory
New Zealand. Inventory of Chemical Substances	- In compliance with the 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

15.2 Federal Regulations

US. EPA EPCRA SARA Title III

SARA Hazard Designation Sections 311/312 (40 CFR 370)

Fire Hazard	no
Reactivity Hazard	no
Sudden Release of Pressure Hazard	no
Acute Health Hazard	no
Chronic Health Hazard	no

Section 313 Toxic Chemicals (40 CFR 372.65)
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)
This material does not contain any components with a SARA 302 RQ.

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)
This material does not contain any components with a section 304 EHS RQ.

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

This material does not contain any components with a CERCLA RQ.

15.3 State Regulations

US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

SECTION 16: Other information

NFPA (National Fire Protection Association) - Classification

Health	1 slight
Flammability	0 minimal
Instability or Reactivity	0 minimal
Special Notices	None

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

- Product evaluated under the US GHS format.

Date Prepared: 03/16/2017

Key or legend to abbreviations and acronyms used in the safety data sheet

- TWA	8-hour, time-weighted average
- SAEL	Solvay Acceptable Exposure Limit
- 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.