

# SAFETY DATA SHEET

According to Directive 2001/58/EC

## BI-PROTEC (TM)

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

#### 1.1. Identification of the substance/preparation

Product name : BI-PROTEC (TM)  
Chemical Name : Sodium hydrogencarbonate  
Synonyms : Sodium bicarbonate  
Molecular formula : NaHCO<sub>3</sub>  
Molecular Weight : 84.02 g/mol

#### 1.2. Use of the Substance/Preparation

Recommended use : - Abrasive  
- Absorbent  
- Cleaning agent  
- Surface-active agents

#### 1.3. Company/Undertaking Identification

Address : SOLVAY CHEMICALS INTERNATIONAL SA  
RUE DU PRINCE ALBERT, 44  
B- 1050 BRUXELLES

Telephone : +3225096111

Telefax : +3225096624

#### 1.4. Emergency telephone number

Telephone : +44(0)208 762 8322 [CareChem 24] (Europe)

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

#### Sodium bicarbonate

CAS-No. : 144-55-8  
EINECS-No. : 205-633-8  
Concentration : > 80.00 %

#### Silicon dioxide

CAS-No. : 112926-00-8  
EINECS-No. : 231-545-4  
Concentration : < 20.00 %

### 3. HAZARDS IDENTIFICATION

Appearance : crystalline, powder  
Colour : white  
Odour : odourless

- Preparation non classified according to Directive 1999/45/EC.



## 4. FIRST AID MEASURES

### 4.1. Inhalation

- Remove the subject from dusty environment and let him blow his nose.

### 4.2. Eye contact

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

### 4.3. Skin contact

- Wash off with soap and water.
- If symptoms persist, call a physician.

### 4.4. Ingestion

*The following actions are recommended :*

- If a large amount is swallowed, get medical attention.

*If victim is conscious:*

- If swallowed, rinse mouth with water (only if the person is conscious).

*If victim is unconscious but breathing:*

- not applicable

## 5. FIRE-FIGHTING MEASURES

### 5.1. Suitable extinguishing media

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

### 5.2. Extinguishing media which must not be used for safety reasons

- None.

### 5.3. Special exposure hazards in a fire

- Not combustible.

### 5.4. Special protective equipment for fire-fighters

- No special precautions required.

## 6. ACCIDENTAL RELEASE MEASURES

### 6.1. Personal precautions

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

### 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 for cleaning up

- Sweep up and shovel into suitable containers for disposal.
- Avoid dust formation.
- Keep in properly labelled containers.
- Keep in suitable, closed containers for disposal.
- Treat recovered material as described in the section "Disposal considerations".



## 7. HANDLING AND STORAGE

### 7.1. Handling

- Keep away from Incompatible products.

### 7.2. Storage

- Keep in a dry place.
- Store in original container.
- Keep container closed.
- Keep away from Incompatible products.

### 7.3. Specific use(s)

- For further information, please contact:
- Supplier

### 7.4. Packaging material

- Paper + PE.
- Polyethylene

### 7.5. Other information

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

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1. Exposure Limit Values

#### **Sodium bicarbonate**

- SAEL (Solvay Acceptable Exposure Limit) 2005  
TWA = 10 mg/m<sup>3</sup>

#### **Silicon dioxide**

- US. ACGIH Threshold Limit Values 2005  
TWA = 10 mg/m<sup>3</sup>
- WEL (UK) 2005  
TWA = 2.4 mg/m<sup>3</sup>  
Remarks: Respirable dust
- WEL (UK) 2005  
TWA = 6 mg/m<sup>3</sup>  
Remarks: Inhalable dust (total)

### 8.2. Exposure controls

- Ensure adequate ventilation.
- Provide appropriate exhaust ventilation at places where dust is formed.
- Refer to protective measures listed in sections 7 and 8.
- Apply technical measures to comply with the occupational exposure limits.

#### 8.2.1. Occupational exposure controls

##### 8.2.1.1. *Respiratory protection*

- Use only respiratory protection that conforms to international/ national standards.
- Effective dust mask.
- Recommended Filter type:
- P2

##### 8.2.1.2. *Hand protection*

- Wear suitable gloves.
- Suitable material : PVC, butyl-rubber

##### 8.2.1.3. *Eye protection*

- Chemical resistant goggles must be worn.
- Dust proof goggles, if dusty.



#### 8.2.1.4. Skin and body protection

- long sleeved clothing

#### 8.2.1.5. 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.

#### 8.2.2. Environmental exposure controls

- Dispose of rinse water in accordance with local and national regulations.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. General Information (appearance, odour)

|            |   |                     |
|------------|---|---------------------|
| Appearance | : | crystalline, powder |
| Colour     | : | white               |
| Odour      | : | odourless           |

### 9.2. Important health safety and environmental information

|   |   |  |
|---|---|--|
| pH                                      | : | 8.6<br><i>Concentration: 52 g/l</i>  |
| Boiling point/range                     | : | <i>Remarks: not applicable, Thermal decomposition</i>                          |
| Flash point                             | : | <i>Remarks: not applicable</i>   |
| Flammability (solid, gas)               | : | <u>Lower explosion limit:</u><br><i>Remarks: The product is not flammable.</i> |
| Explosive properties                    | : | <i>Remarks: Not explosive</i>  |
| Oxidizing properties                    | : | <i>Remarks: Non oxidizer</i>   |
| Vapour pressure                         | : | <i>Remarks: not applicable</i>   |
| Relative density / Density              | : | <i>Remarks: no data available</i>  |
| Bulk density                            | : | from 0.5 - 1.2 kg/dm <sup>3</sup>  |
| Solubility                              | : | soluble<br>: Water<br>: Other<br>: slightly soluble<br>: Alcohol               |
| Partition coefficient (n-octanol/water) | : | <i>Remarks: not applicable</i>   |
| Viscosity                               | : | 1.2 mPa.s  |

### 9.3. Other data

|                           |   |  |
|---------------------------|---|--|
| Decomposition temperature | : | > 60 °C  |
| Remarks                   | : | All physico-chemical data are related to the main product(s), if not mentioned contrary. |



## 10. STABILITY AND REACTIVITY

### 10.1. Stability

- Stable under recommended storage conditions.

### 10.2. Conditions to avoid

- none

### 10.3. Materials to avoid

- Acids

### 10.4. Hazardous decomposition products

- none

## 11. TOXICOLOGICAL INFORMATION

### 11.1 Toxicological data

#### **Acute oral toxicity**

- LD50, rat, > 4 g/kg (Pure substance/preparation)

#### **Acute inhalation toxicity**

- LC50, rat, > 4.74 mg/l (Pure substance/preparation)

#### **Skin irritation**

- rat, Mild skin irritation (Pure substance/preparation)

#### **Eye irritation**

- rat, Mild eye irritation (Pure substance/preparation)

#### **Sensitization**

- no data available

#### **Chronic toxicity**

- no observed effect, (Pure substance/preparation)

#### **Genetic toxicity in vitro**

- Genotoxicity in vitro, Tests on bacterial or mammalian cell cultures did not show mutagenic effects. (Pure substance/preparation)

#### **Teratogenicity**

- Oral route (gavage), 10 days, Various species, 330 mg/kg, Did not show teratogenic effects in animal experiments., (Pure substance/preparation)

#### **Possible hazards (summary)**

- Health injuries are not known or expected under normal use.

### 11.2. Health effects

#### **Inhalation**

- slight irritation
- Upper respiratory tract
- At high concentrations, nose and throat irritation.
- (in case of higher concentration): Cough.

#### **Eye contact**

- Mechanical irritation from the particulates generated by the product.

#### **Skin contact**

- In case of repeated contact: dry skin.
- Repeated or prolonged exposure: slight irritation.

#### **Ingestion**

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



## 12. ECOLOGICAL INFORMATION

### 12.1. Ecotoxicity effects

#### *Acute toxicity*

- Fishes, *Oncorhynchus mykiss*, LC50, 96 h, 7,700 mg/l (Pure substance/preparation)
- Fishes, *Oncorhynchus mykiss*, NOEC, 96 h, 2,300 mg/l (Pure substance/preparation)
- Fishes, *Lepomis macrochirus*, LC50, 96 h, 7,100 mg/l (Pure substance/preparation)
- Fishes, *Lepomis macrochirus*, NOEC, 96 h, 5,200 mg/l (Pure substance/preparation)
- Crustaceans, *Daphnia magna*, EC50, 48 h, 4,100 mg/l (Pure substance/preparation)
- Crustaceans, *Daphnia magna*, NOEC, 48 h, 3,100 mg/l (Pure substance/preparation)

### 12.2. Mobility

- Water, Soil/sediments  
Remarks: Solubility
- Water, Soil/sediments  
Remarks: Mobility

### 12.3. Persistence and degradability

#### *Abiotic degradation*

- Water, hydrolyses  
Result: acid/base equilibrium as a function of pH  
Degradation products: carbonic acid/bicarbonate/carbonate

#### *Biodegradation*

- Remarks: The methods for determining the biological degradability are not applicable to inorganic substances.

### 12.4. Bioaccumulative potential

- Result: not applicable

### 12.5. Other adverse effects

- no data available

### 12.6. Possible hazards (summary)

- Ecological injuries are not known or expected under normal use.

## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste from residues / unused products

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

### 13.2. Packaging treatment

- To avoid treatments, as far as possible, use dedicated containers.
- or
- Clean container with water.
- Dispose of rinse water in accordance with local and national regulations.
- The empty and clean containers are to be reused in conformity with regulations.
- or
- Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.



## 14. TRANSPORT INFORMATION

- Sea (IMO/IMDG)
- not regulated
- Air (ICAO/IATA)
- not regulated
- European Road/Rail (ADR/RID)
- not regulated

## 15. REGULATORY INFORMATION

### 15.1. EC Label

- Preparation non classified according to Directive 1999/45/EC.

### 15.2. Inventory Information

|  |     |   |
|--|-----|---|
| <b>Australian Inventory of Chemical Substances (AICS)</b>                | : - | In compliance with inventory.   |
| <b>Canadian Domestic Substances List (DSL)</b>                           | : - | In compliance with inventory.   |
| <b>Korean Existing Chemicals List (ECL)</b>                              | : - | In compliance with inventory.   |
| <b>EU list of existing chemical substances (EINECS)</b>                  | : - | In compliance with inventory.   |
| <b>Japanese Existing and New Chemical Substances (MITI List) (ENCS)</b>  | : - | In compliance with inventory.   |
| <b>Inventory of Existing Chemical Substances (China) (IECS)</b>          | : - | In compliance with inventory.   |
| <b>Philippine Inventory of Chemicals and Chemical Substances (PICCS)</b> | : - | In compliance with inventory.   |
| <b>Toxic Substance Control Act list (TSCA)</b>                           | : - | In compliance with inventory.   |
| <b>New Zealand Inventory (in preparation) (NZ)</b>                       | : - | One or more components not on composite list considered for transfer. |
| <b>Schweizer Giftliste-1 (GL-1)</b>                                      | : - | One or more components not listed on inventory.                       |

## 16. OTHER INFORMATION

### 16.1. Administrative information

- SiO<sub>2</sub>: CAS-N° 112926-00-8 or CAS-N° 7631-86-9
- Update  
This data sheet contains changes from the previous version in section(s): 16
- Distribute new edition to clients

This MSDS is intended for only the selected countries to which it is applicable. For example, this MSDS is not intended for use nor distribution within North America. You should contact Solvay America company representative for the official North America MSDS.



The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. This applies to product which conforms to the specification, unless otherwise stated. In this case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.

