

# SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, as amended



## CLAYTONE-HY

Version 5.2  
SDB\_REG\_EU

Revision Date: 23.10.2024

Date of last issue: 29.05.2024  
Print Date 29.10.2024

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

#### 1.1 Product identifier

Trade name : CLAYTONE-HY  
Product code : 000000000000150339  
Substance name : Bentonite

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

Use of the Sub-  
stance/Mixture : Rheology Additive

#### 1.3 Details of the supplier of the safety data sheet

Company : BYK-Chemie GmbH  
Abelstrasse 45  
46483 Wesel  
Telephone : +49 281 670-0  
Telefax : +49 281 65735  
  
Information : Regulatory Affairs  
Telephone : +49 281 670-23532  
Telefax : +49 281 670-23533  
E-mail address : GHS.BYK@altana.com

#### 1.4 Emergency telephone number

Europe +44 1235 239670  
Middle East/Africa +44 1235 239671  
Americas +1 215 207 0061  
East/South East Asia +65 3158 1074  
(Local India: 000 800 100 7479)

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

**Classification (REGULATION (EC) No 1272/2008)**  
Not a hazardous substance or mixture.

#### 2.2 Label elements

**Labelling (REGULATION (EC) No 1272/2008)**  
Not a hazardous substance or mixture.

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### 2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

The product contains less than 1% w/w RCS (respirable crystalline silica) as determined by the SWeRF method. The respirable crystalline silica content can be measured using the "Size-Weighted Respirable Fraction – SWeRF" method. All details about the SWeRF method is available at [www.crystallinesilica.eu](http://www.crystallinesilica.eu).

Depending on the handling and use (grinding, drying, bagging), airborne respirable dust may be generated. Dust contains respirable crystalline silica. Prolonged and or massive inhalation of respirable crystalline silica dust may cause lung fibrosis, commonly referred to as silicosis. Principal symptoms of silicosis are cough and breathlessness. Occupational exposure to respirable dust should be monitored and controlled. The product should be handled using methods and techniques that minimize or eliminate dust generation.

## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Substance name : Bentonite

Chemical nature : Organophilic phyllosilicate

#### Components

Remarks : No hazardous ingredients

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

General advice : Do not leave the victim unattended.

If inhaled : If breathed in, move person into fresh air.

If unconscious, place in recovery position and seek medical advice.

If symptoms persist, call a physician.

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- |                         |   |                                                                                                                                                                                                       |
|-------------------------|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| In case of skin contact | : | Wash off with soap and plenty of water.<br>If skin irritation persists, call a physician.<br>Wash contaminated clothing before re-use.                                                                |
| In case of eye contact  | : | Rinse thoroughly with plenty of water for at least 15 minutes<br>and consult a physician.<br><br>Remove contact lenses.<br>Protect unharmed eye.<br>If eye irritation persists, consult a specialist. |
| If swallowed            | : | Keep respiratory tract clear.<br>Do not give milk or alcoholic beverages.<br>Never give anything by mouth to an unconscious person.<br>If symptoms persist, call a physician.                         |

### 4.2 Most important symptoms and effects, both acute and delayed

- |          |   |                           |
|----------|---|---------------------------|
| Symptoms | : | No information available. |
| Risks    | : | No information available. |

### 4.3 Indication of any immediate medical attention and special treatment needed

- |           |   |                        |
|-----------|---|------------------------|
| Treatment | : | Treat symptomatically. |
|-----------|---|------------------------|

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## SECTION 5: Firefighting measures

### 5.1 Extinguishing media

- |                              |   |                                                                             |
|------------------------------|---|-----------------------------------------------------------------------------|
| Suitable extinguishing media | : | Foam<br>Carbon dioxide (CO <sub>2</sub> )<br>Dry chemical<br><br>Water mist |
|------------------------------|---|-----------------------------------------------------------------------------|

- |                                |   |                       |
|--------------------------------|---|-----------------------|
| Unsuitable extinguishing media | : | High volume water jet |
|--------------------------------|---|-----------------------|

### 5.2 Special hazards arising from the substance or mixture

- |                                       |   |                                                                                                                                                                                                                                                                                 |
|---------------------------------------|---|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Specific hazards during fire-fighting | : | Dust can form an explosive mixture in air.<br>Avoid generating dust; fine dust dispersed in air in sufficient concentrations, and in the presence of an ignition source is a potential dust explosion hazard.<br>Take measures to prevent the build up of electrostatic charge. |
| Hazardous combustion products         | : | Carbon oxides<br>Nitrogen oxides (NO <sub>x</sub> )                                                                                                                                                                                                                             |

### 5.3 Advice for firefighters

- |                                               |   |                                                                        |
|-----------------------------------------------|---|------------------------------------------------------------------------|
| Special protective equipment for firefighters | : | Wear self-contained breathing apparatus for firefighting if necessary. |
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Further information : Standard procedure for chemical fires.  
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions : Use personal protective equipment.  
Avoid breathing dust.  
Avoid dust formation.

#### 6.2 Environmental precautions

Environmental precautions : Try to prevent the material from entering drains or water courses.

#### 6.3 Methods and material for containment and cleaning up

Methods for cleaning up : Pick up and arrange disposal without creating dust.  
Sweep up and shovel.  
Keep in suitable, closed containers for disposal.

#### 6.4 Reference to other sections

For disposal considerations see section 13., For personal protection see section 8.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

Advice on safe handling : Avoid spillage on floor as the product can become very slippery when wet.  
For personal protection see section 8.  
Smoking, eating and drinking should be prohibited in the application area.

Advice on protection against fire and explosion : Provide appropriate exhaust ventilation at places where dust is formed.

Hygiene measures : General industrial hygiene practice.

Dust explosion class : St1

#### 7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Electrical installations / working materials must comply with the technological safety standards.

Advice on common storage : No materials to be especially mentioned.

Further information on storage stability : Keep in a dry place.  
No decomposition if stored and applied as directed.

#### 7.3 Specific end use(s)

Specific use(s) : No data available

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### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

Contains no substances with occupational exposure limit values.

#### 8.2 Exposure controls

##### Engineering measures

Use explosion-proof ventilating equipment.

Maintain air concentrations below occupational exposure standards.

##### Personal protective equipment

Eye protection : Safety glasses

Hand protection  
Material : Protective gloves

Skin and body protection : Protective suit

Respiratory protection : In the case of dust or aerosol formation use respirator with an approved filter.

Dust safety masks are recommended when the dust concentration is more than 10 mg/m<sup>3</sup>.

Suitable mask with particle filter P3 (European Norm 143)

Protective measures : Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

##### Environmental exposure controls

General advice : Try to prevent the material from entering drains or water courses.

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### SECTION 9: Physical and chemical properties

#### 9.1 Information on basic physical and chemical properties

Physical state : powder  
Colour : off-white  
Odour : odourless  
Odour Threshold : Not applicable

Melting point/ range : Not applicable

Boiling point/boiling range : Not applicable

Flammability : May form combustible dust concentrations in air.

##### Combustible Solids

Upper explosion limit / Upper flammability limit : Not applicable

Lower explosion limit / Lower flammability limit :  $\geq 0,05$  g/l

Flash point : Not applicable

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|                                        |   |                                                                                                        |
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| Auto-ignition temperature              | : | 410 - 420 °C<br>Ignition temperature dust cloud<br><br>230 - 240 °C<br>Ignition temperature dust layer |
| Decomposition temperature              | : | Not applicable                                                                                         |
| pH                                     | : | 4 - 6 (20 °C)<br>Concentration: 1 %<br>Method: Universal pH-value indicator                            |
| Viscosity                              |   |                                                                                                        |
| Viscosity, dynamic                     | : | Not applicable                                                                                         |
| Solubility(ies)                        |   |                                                                                                        |
| Water solubility                       | : | insoluble                                                                                              |
| Solubility in other solvents           | : | No data available                                                                                      |
| Partition coefficient: n-octanol/water | : | No data available                                                                                      |
| Vapour pressure                        | : | Not applicable                                                                                         |
| Density                                | : | 1,6 g/cm <sup>3</sup> (20 °C, 1.013 hPa)                                                               |
| Relative vapour density                | : | Not applicable                                                                                         |

### 9.2 Other information

|                                       |   |                          |
|---------------------------------------|---|--------------------------|
| Minimum explosible dust concentration | : | 80 - 90 g/m <sup>3</sup> |
| Dust deflagration index (Kst)         | : | 181 m.b./s               |
| Dust explosion class                  | : | St1                      |
| Evaporation rate                      | : | Not applicable           |
| Minimum ignition energy               | : | 10 - 30 mJ               |

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

No decomposition if stored and applied as directed.

### 10.2 Chemical stability

No decomposition if stored and applied as directed.

### 10.3 Possibility of hazardous reactions

|                     |   |                                                                                                                                  |
|---------------------|---|----------------------------------------------------------------------------------------------------------------------------------|
| Hazardous reactions | : | Stable under recommended storage conditions.<br>No hazards to be specially mentioned.<br>Dust may form explosive mixture in air. |
|---------------------|---|----------------------------------------------------------------------------------------------------------------------------------|

### 10.4 Conditions to avoid

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Conditions to avoid : Heat, flames and sparks.

### 10.5 Incompatible materials

Materials to avoid : None known.

### 10.6 Hazardous decomposition products

No decomposition if stored and applied as directed.

## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

##### Product:

Acute oral toxicity : Remarks: No data available

#### Skin corrosion/irritation

##### Product:

Remarks : No data available

#### Serious eye damage/eye irritation

##### Product:

Remarks : No data available

#### Respiratory or skin sensitisation

##### Product:

Remarks : No data available

#### Germ cell mutagenicity

##### Product:

Genotoxicity in vitro : Remarks: No data available

Genotoxicity in vivo : Remarks: No data available

#### Carcinogenicity

##### Product:

Remarks : No data available

#### Reproductive toxicity

##### Product:

Effects on fertility : Remarks: No data available

Effects on foetal develop- : Remarks: No data available

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### STOT - single exposure

**Product:**

Remarks : No data available

### STOT - repeated exposure

**Product:**

Remarks : No data available

### Repeated dose toxicity

**Product:**

Remarks : No data available

### Aspiration toxicity

**Product:**

No data available

## 11.2 Information on other hazards

### Endocrine disrupting properties

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### Further information

**Product:**

Remarks : This product contains <3% crystalline silica. The respirable crystalline silica as determined by the SWeRF method is <1% w/w. See section 2.3

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## SECTION 12: Ecological information

### 12.1 Toxicity

**Product:**

Toxicity to fish : Remarks: No data available

Toxicity to daphnia and other aquatic invertebrates : Remarks: No data available

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### 12.2 Persistence and degradability

**Product:**

Biodegradability : Remarks: No data available

### 12.3 Bioaccumulative potential

**Product:**

Bioaccumulation : Remarks: No data available

### 12.4 Mobility in soil

**Product:**

Mobility : Remarks: Bentonite is almost insoluble and thus presents a low mobility in most soils

### 12.5 Results of PBT and vPvB assessment

**Product:**

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

### 12.6 Endocrine disrupting properties

**Product:**

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

### 12.7 Other adverse effects

**Product:**

Additional ecological information : No data available

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## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Contaminated packaging : Empty containers should be taken to an approved waste handling site for recycling or disposal.

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## SECTION 14: Transport information

### 14.1 UN number or ID number

Not regulated as a dangerous good

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### 14.2 UN proper shipping name

Not regulated as a dangerous good

### 14.3 Transport hazard class(es)

Not regulated as a dangerous good

### 14.4 Packing group

Not regulated as a dangerous good

### 14.5 Environmental hazards

Not regulated as a dangerous good

### 14.6 Special precautions for user

Not applicable

### 14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

|                                                                                                                                                         |                                                                                                                     |
|---------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII)              | : Not applicable                                                                                                    |
| REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59).                                                               | : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57). |
| REACH - List of substances subject to authorisation (Annex XIV)                                                                                         | : Not applicable                                                                                                    |
| Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. | Not applicable                                                                                                      |

### 15.2 Chemical safety assessment

Surface treated substance. Direct registration is not required. See also ECHA FAQ REACH ID0038 Bentonite is exempted from REACH registration in accordance with Annex V.7. A hazard assessment has been conducted under the umbrella of the European Bentonite Association (EUBA) and the outcome was that bentonite is not a hazardous substances. Therefore, in absence of identified hazard, the substance is safe and presents no risk.

## SECTION 16: Other information

Items where relevant changes have been made to the previous version are highlighted in the body of this document by two vertical lines.

### Full text of other abbreviations

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ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative

### Further information

Training advice : Workers (and your customers or users in the case of resale) should be informed of the potential presence of respirable dust and respirable crystalline silica as well as their potential hazards. Appropriate training in the proper use and handling of this material should be provided as required under applicable regulations.

Other information : Refer to NFPA 654, Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids, for safe handling.

In 1997, IARC (the International Agency for Research on Cancer) concluded that crystalline silica inhaled from occupational sources can cause lung cancer in humans. However in making the overall evaluation, IARC noted that "carcinogenicity was not detected in all industrial circumstances studied. Carcinogenicity may be dependent on inherent characteristics of the crystalline silica or on external factors affecting its biological activity or distribution of its polymorphs." (IARC Monographs on the evaluation of the carcinogenic risks of chemi-

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cals to humans, Silica, silicates dust and organic fibres, 1997, Vol. 68, IARC, Lyon, France.)

In June 2003, SCOEL (the EU Scientific Committee on Occupational Exposure Limits) concluded that the main effect in humans of the inhalation of respirable crystalline silica dust is silicosis. "There is sufficient information to conclude that the relative risk of lung cancer is increased in persons with silicosis (and, apparently, not in employees without silicosis exposed to silica dust in quarries and in the ceramic industry). Therefore, preventing the onset of silicosis will also reduce the cancer risk..." (SCOEL SUM Doc 94-final, June 2003)

According to the current state of the art, worker protection against silicosis can be consistently assured by respecting the existing regulatory occupational exposure limits.

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. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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