CLAYTONE-3

Product code: 000000000000116152

Version 1.0 SDB_NL Revision Date 08.03.2021 Print Date 05.01.2026

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

1.1 Product identifier

Trade name : CLAYTONE-3

Substance name : -

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

Use of the Substance/Mixture : Rheology Additive

1.3 Details of the supplier of the safety data sheet

Company : BYK USA LLC
South Cherry Street 524
06492 Wallingford

Telephone :

Information : BYK USA Regulatory Affairs
Telephone : +1 203-265-2086
Telefax :
E-mail address : BRIEF.BYK.NAFTA@altana.com

1.4 Emergency telephone number

+31 10 713 8195 (Dutch and English)
+44 1235 239670 (All languages)

Nederland: Nationaal Vergiftigingen Informatie Centrum (NVIC): +31 (0)88 755 8000
(Uitsluitend bestemd om professionele hulpverleners te informeren bij acute vergiftigingen)

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.

2.3 Other hazards

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.
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 : -

Chemical nature : Organophilic phyllosilicate

Hazardous components

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 unconscious, place in recovery position and seek medical advice.
If symptoms persist, call a physician.

If breathed in, move person into fresh air.

In case of skin contact : Wash off with soap and plenty of water.
If skin irritation persists, call a physician.
Wash contaminated clothing before re-use.

In case of eye contact : Remove contact lenses.
Protect unharmed eye.
If eye irritation persists, consult a specialist.

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed : Keep respiratory tract clear.

Do not give milk or alcoholic beverages.
Never give anything by mouth to an unconscious person.
If symptoms persist, call a physician.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms : None known.

Risks : None known.

4.3 Indication of any immediate medical attention and special treatment needed

Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Water mist
Foam
Dry chemical
Carbon dioxide (CO2)

5.2 Special hazards arising from the substance or mixture

Specific hazards during firefighting : Dust can form an explosive mixture in air.
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.
Take measures to prevent the build up of electrostatic charge.

Hazardous combustion products : Carbon dioxide (CO2)
Nitrogen oxides (NOx)

5.3 Advice for firefighters

Special protective equipment for firefighters : Wear self-contained breathing apparatus for firefighting if necessary.

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 : Avoid dust formation.

6.2 Environmental precautions

Environmental precautions : No special environmental precautions required.

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

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

Hygiene measures : General industrial hygiene practice.

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.

Other data : 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

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.

Personal protective equipment

Eye protection : Safety glasses

Hand protection
Material : Protective gloves

Skin and body protection : Protective suit
Respiratory protection : No personal respiratory protective equipment normally required.
Protective measures : Occupational exposure to respirable dust and respirable crystalline silica should be monitored and controlled.

Environmental exposure controls

General advice : No special environmental precautions required.
Try to prevent the material from entering drains or water courses.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	:	powder
Colour	:	off-white
Odour	:	odourless
Odour Threshold	:	Not applicable
pH	:	5 - 7, Concentration: 1 % (20 °C) Method: Universal pH-value indicator
Melting point/freezing point	:	Not applicable
Boiling point/boiling range	:	Not applicable
Flash point	:	Not applicable
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	May form combustible dust concentrations in air.
Upper explosion limit	:	Not applicable
Lower explosion limit	:	>= 0,05 g/l
Vapour pressure	:	Not applicable
Relative vapour density	:	Not applicable
Relative density	:	No data available
Density	:	1,6 g/cm3 (20 °C)
Bulk density	:	416 kg/m3

Solubility(ies)

Water solubility	:	insoluble
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No bioaccumulation is to be expected.
Ignition temperature	:	230 °C Method: Ignition temperature dust layer
		440 °C Method: Ignition temperature dust cloud
Decomposition temperature	:	Not applicable
Viscosity		
Viscosity, dynamic	:	Not applicable

9.2 Other information

No data available

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.
No hazards to be specially mentioned.

Dust may form explosive mixture in air.

10.4 Conditions to avoid

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 toxicological effects

Acute toxicity

Product:

Acute oral toxicity : Remarks: No data available

Components:

Alkyl quaternary ammonium bentonite:

Acute dermal toxicity : LD50 (Rat, male and female): > 2.000 mg/kg
Method: OECD Test Guideline 402
GLP: yes

Skin corrosion/irritation

Product:

Remarks: No data available

Serious eye damage/eye irritation

Product:

Remarks: No data available

Components:

Alkyl quaternary ammonium bentonite:

Species: Rabbit
Method: OECD Test Guideline 405
Result: No eye irritation
GLP: yes

Respiratory or skin sensitisation

Product:

Remarks: No data available

Components:

Alkyl quaternary ammonium bentonite:

Test Type: Buehler Test
Species: Guinea pig
Method: OECD Test Guideline 406
Result: Does not cause skin sensitisation.
GLP: yes

Assessment: No acute effects have been observed.
Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

Components:

Alkyl quaternary ammonium bentonite:

Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
GLP: yes

Genotoxicity in vivo : Test Type: Micronucleus test
Species: Mouse (male and female)
Application Route: Oral
Method: OECD Test Guideline 474
Result: negative
GLP: yes

Germ cell mutagenicity-Assessment : In vitro tests did not show mutagenic effects, In vivo tests did not show mutagenic effects

STOT - single exposure

Components:

Alkyl quaternary ammonium bentonite:
Assessment: The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

Components:

Alkyl quaternary ammonium bentonite:
Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Components:

Alkyl quaternary ammonium bentonite:
Species: Rat, male and female
NOAEL: > 1.000 mg/kg
Application Route: Oral
Exposure time: 28 d
Method: OECD Test Guideline 407
GLP: yes

Repeated dose toxicity - Assessment : No acute effects have been observed.
No persistent or cumulative effects were observed.

Further information

Product:

Remarks: This product contains <1% crystalline silica. The respirable crystalline silica as

determined by the SWeRF method is <1% w/w. See section 2.3

SECTION 12: Ecological information

12.1 Toxicity

Components:

Alkyl quaternary ammonium bentonite:

Toxicity to fish	:	LC50 (Brachydanio rerio (zebrafish)): > 100 mg/l Exposure time: 96 h Method: Tested according to Directive 92/69/EEC. GLP: yes LL50 (Scophthalmus maximus (turbot)): > 1.000 mg/l Exposure time: 96 h Method: PARCOM Protocol Part B GLP: yes
Toxicity to daphnia and other aquatic invertebrates	:	LL50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Method: OECD Test Guideline 202 GLP: yes LL50 (Acartia Tonsa): > 2.000 mg/l Exposure time: 48 h Method: ISO 14669 and PARCOM method GLP: yes
Toxicity to algae	:	ErC50 (Selenastrum capricornutum (green algae)): > 1.000 mg/l Exposure time: 72 h Method: Directive 67/548/EEC, Annex V, C.3. GLP: yes ErL50 (Skeletonema costatum (marine diatom)): > 1.000 mg/l Exposure time: 72 h Method: ISO 10253 GLP: yes
Toxicity to bacteria	:	EC50 (activated sludge): > 300 mg/l Method: OECD Test Guideline 209 GLP: yes
Toxicity to soil dwelling organisms	:	EC50: > 10.000 mg/kg Exposure time: 10 d Species: Corophium volutator (sandhopper) GLP:yes
Ecotoxicology Assessment Short-term (acute) aquatic hazard	:	This product has no known ecotoxicological effects.

12.2 Persistence and degradability

Components:

Alkyl quaternary ammonium bentonite:

Biodegradability : Result: Not readily biodegradable.
Method: OECD Test Guideline 301B
GLP: yes

Result: Not biodegradable
Method: OECD Test Guideline 306
GLP: yes

12.3 Bioaccumulative potential

Product:

Bioaccumulation : Remarks: No bioaccumulation is to be expected.

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

Components:

Alkyl quaternary ammonium bentonite:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB)..
Remarks: Organoclays as such are not readily biodegradable. The quaternary ammonium compounds used in the manufacture of Organoclays are biodegradable. However, the bioavailability of the quaternary ammonium compounds is very limited since these are strongly bound to the clay particles. Therefore, biodegradation of organoclays is expected to be a slow process. Thus, a relatively long half-life of organoclays in the environment is not considered to pose a risk to aquatic organisms.
Organoclays are insoluble hydrophobic particles. Due to these physical properties, absorption in the digestive tract is rather unlikely. This is confirmed by toxicological studies. It is therefore concluded that organoclays do not have a bioaccumulation potential, neither in mammals nor in the aquatic food web.

12.6 Other adverse effects

Components:

Alkyl quaternary ammonium bentonite:

Additional ecological information : Remarks: None known.

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.

SECTION 14: Transport information

14.1 UN number

Not regulated as a dangerous good

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 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

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 - 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

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

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European 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; 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 chemicals 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 contained herein is based on the present state of our knowledge and does therefore not guarantee certain properties.

NL / EN