

BYK-C 8003

Product code: 00000000000111363

Version 6.0 SDS_APJ_MY

Revision Date 17.03.2023

Print Date 09.08.2023

SECTION 1: Identification of the hazardous chemical and of the supplier**Product identifier**

Product name : BYK-C 8003

Recommended use : Additive to Improve Mechanical Properties

Manufacturer or supplier's details

Company : BYK-Chemie GmbH

Address : Abelstrasse 45
46483 Wesel

Telephone : +49 281 670-23532

Telefax : +49 281 670-23533

E-mail address : GHS.BYK@altana.com

Emergency telephone number : +60 3 6207 4347 (Malay and English)
+65 3158 1074 (All languages)

SECTION 2: Hazards identification**Classification of the hazardous chemical**

Flammable liquids : Category 3

Acute toxicity (Inhalation) : Category 4

Acute toxicity (Inhalation) : Category 4

Serious eye damage/eye irritation : Category 2

Skin sensitisation : Category 1

Hazardous to the aquatic environment - chronic hazard : Category 2

Hazardous to the aquatic environment - chronic hazard : Category 2

Label elements

Hazard pictograms :



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- Signal word : Danger
Warning
- Hazard statements : H226 Flammable liquid and vapour.
H319 Causes serious eye irritation.
H411 Toxic to aquatic life with long lasting effects.
H332 Harmful if inhaled.
H226 Flammable liquid and vapour.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H411 Toxic to aquatic life with long lasting effects.
- Precautionary statements : **Prevention:**
P210 Keep away from heat/ sparks/ open flames/ hot surfaces.
No smoking.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
P210 Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
P391 Collect spillage.
Storage:
P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

Other hazards which do not result in classification

None known.

SECTION 3: Composition and information of the ingredients of the hazardous chemical

Substance / Mixture : Mixture

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Chemical nature : Mixture of surface active substances

Components

Chemical name	CAS-No.	Concentration (% w/w)
trimethoxyvinylsilane	2768-02-7	>= 50 -<= 100
Alcohol, C13-15-ethoxylated, reaction products with 2,5-furandione, dihydro-	162627-31-8	>= 12.5 -< 20
2-methoxy-1-methylethyl acetate	108-65-6	>= 1 -< 3
1-Propanamine, 3-(triethoxysilyl)-, polymer with α -(1-oxo-2-propen-1-yl)- ω -[(1-oxo-2-propen-1-yl)oxy]poly(oxy-1,2-ethanediyl) compds. with polyethylene glycol mono-C13-15-alkyl ethers succinates	Not Assigned	>= 0.5 -< 1
methanol	67-56-1	>= 0.1 -< 0.25
tetramethyl orthosilicate	681-84-5	>= 0.1 -< 0.25

SECTION 4: First aid measures

- General advice : Move out of dangerous area.
Show this safety data sheet to the doctor in attendance.
Do not leave the victim unattended.
- If inhaled : Consult a physician after significant exposure.
If unconscious, place in recovery position and seek medical advice.
- In case of skin contact : If on skin, rinse well with water.
If on clothes, remove clothes.
- In case of eye contact : Immediately flush eye(s) with plenty of water.
Remove contact lenses.
Protect unharmed eye.
Keep eye wide open while rinsing.
If eye irritation persists, consult a specialist.
- 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.
- Most important symptoms and effects, both acute and delayed : None known.

SECTION 5: Firefighting measures
Extinguishing media

- Suitable extinguishing media : Alcohol-resistant foam
Carbon dioxide (CO₂)
Dry chemical

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Unsuitable extinguishing media : High volume water jet

Physicochemical hazards arising from the chemical

Specific hazards during firefighting : Do not allow run-off from fire fighting to enter drains or water courses.

Special protective equipment and precautions for fire-fighters

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

Specific extinguishing methods : Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. For safety reasons in case of fire, cans should be stored separately in closed containments. Use a water spray to cool fully closed containers.

SECTION 6: Accidental release measures

Personal precautions, protective equipment and emergency procedures : Use personal protective equipment. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas.

Environmental precautions : Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.

Methods and materials for containment and cleaning up : Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations (see section 13).

SECTION 7: Handling and storage**Handling****Precautions for safe handling**

Advice on protection against fire and explosion : Do not spray on a naked flame or any incandescent material. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). Keep away from open flames, hot surfaces and sources of ignition.

Advice on safe handling : Avoid formation of aerosol. Do not breathe vapours/dust.

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Avoid contact with skin and eyes.
 For personal protection see section 8.
 Smoking, eating and drinking should be prohibited in the application area.
 Take precautionary measures against static discharges.
 Provide sufficient air exchange and/or exhaust in work rooms.
 Open drum carefully as content may be under pressure.
 Dispose of rinse water in accordance with local and national regulations.
 Persons susceptible to skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Storage
Conditions for safe storage, including any incompatibilities

Conditions for safe storage : No smoking.
 Keep container tightly closed in a dry and well-ventilated place.
 Containers which are opened must be carefully resealed and kept upright to prevent leakage.
 Observe label precautions.
 Electrical installations / working materials must comply with the technological safety standards.

Further information on storage stability : No decomposition if stored and applied as directed.

SECTION 8: Exposure controls and personal protection
Control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
methanol	67-56-1	TWA	200 ppm 262 mg/m ³	MY PEL
		Further information: Skin		
		TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
tetramethyl orthosilicate	681-84-5	TWA	1 ppm 6 mg/m ³	MY PEL
		TWA	1 ppm	ACGIH

Biological occupational exposure limits

Components	CAS-No.	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
methanol	67-56-1	Methanol	Urine	End of shift (As soon as possible)	15 mg/l	ACGIH BEI

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				after exposure ceases)		
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Individual protection measures, such as personal protective equipment

- Eye/face protection : Eye wash bottle with pure water
Tightly fitting safety goggles
Wear face-shield and protective suit for abnormal processing problems.
- Skin protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.
- Hand protection
Material : butyl-rubber
Break through time : > 480 min
- Remarks : Wear suitable gloves.
- Respiratory protection : In the case of vapour formation use a respirator with an approved filter.
- Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9: Physical and chemical properties

- Appearance : liquid
- Colour : colourless
- Odour : characteristic
- Odour Threshold : No data available
- pH : 5 (20 °C)
Concentration: 1 %
Method: Universal pH-value indicator
- Melting point/range : ca. -8 °C
Method: derived
- Initial boiling point : ca. 123 °C
Method: derived
- Flash point : 24 °C
Method: 48 (Abel-Pensky)

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Evaporation rate	:	No data available
Upper explosion limit / Upper flammability limit	:	No data available
Lower explosion limit / Lower flammability limit	:	No data available
Vapour pressure	:	ca. 88 hPa (50 °C) Method: derived
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	0.980 g/cm ³ (20 °C, 1,013 hPa) Method: 4 (20°C oscillating U-tube)
Solubility(ies)		
Water solubility	:	immiscible
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Auto-ignition temperature	:	> 200 °C Method: DIN 51 794/ DIN prEN 14 522
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available

SECTION 10: Stability and reactivity

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed. Vapours may form explosive mixture with air.
Conditions to avoid	:	Heat, flames and sparks.
Incompatible materials	:	Strong oxidizing agents

SECTION 11: Toxicological information

Information on likely routes of exposure : None known.

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Acute toxicity

Harmful if inhaled.

Product:

- Acute oral toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method
- Acute inhalation toxicity : Acute toxicity estimate: 16.8 mg/l
Exposure time: 4 h
Assessment: The component/mixture is moderately toxic after short term inhalation.
- Acute dermal toxicity : Acute toxicity estimate: > 2,000 mg/kg
Method: Calculation method

Components:**trimethoxyvinylsilane:**

- Acute oral toxicity : LD50 (Rat): 7,120 - 7,236 mg/kg
Method: OECD Test Guideline 401
GLP: No information available.

Alcohol, C13-15-ethoxylated, reaction products with 2,5-furandione, dihydro-:

- Acute oral toxicity : LD50 (Rat, male and female): > 4,000 mg/kg
Method: OECD Test Guideline 401
GLP: yes

2-methoxy-1-methylethyl acetate:

- Acute oral toxicity : LD50 (Rat, female): > 5,000 mg/kg
Method: OECD Test Guideline 401
GLP: yes
- Acute inhalation toxicity : Remarks: No data available
- Acute dermal toxicity : Remarks: No data available

Skin corrosion/irritation**Product:**

- Remarks : May cause skin irritation and/or dermatitis.

Components:**trimethoxyvinylsilane:**

- Species : Rabbit
Result : No skin irritation
GLP : no

Alcohol, C13-15-ethoxylated, reaction products with 2,5-furandione, dihydro-:

- Species : Rabbit
Method : OECD Test Guideline 404

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Result : No skin irritation
GLP : yes

2-methoxy-1-methylethyl acetate:

Species : Rabbit
Method : OECD Test Guideline 404
Result : No skin irritation
GLP : yes

Serious eye damage/eye irritation**Product:**

Remarks : Causes serious eye irritation.

Components:**trimethoxyvinylsilane:**

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

Alcohol, C13-15-ethoxylated, reaction products with 2,5-furandione, dihydro-:

Species : Rabbit
Result : Eye irritation
Assessment : Irritating to eyes.
Method : OECD Test Guideline 405
GLP : yes

2-methoxy-1-methylethyl acetate:

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

Respiratory or skin sensitisation**Product:**

Remarks : Causes sensitisation.

Assessment : Harmful if inhaled.

Components:**Alcohol, C13-15-ethoxylated, reaction products with 2,5-furandione, dihydro-:**

Remarks : No data available

2-methoxy-1-methylethyl acetate:

Species : Guinea pig
Method : OECD Test Guideline 406

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Result : Not a skin sensitizer.
GLP : yes

STOT - single exposure**Components:****2-methoxy-1-methylethyl acetate:**

Assessment : May cause drowsiness or dizziness.

Repeated dose toxicity**Product:**

Remarks : No data available

Repeated dose toxicity - Assessment : Harmful if inhaled.

Components:**Alcohol, C13-15-ethoxylated, reaction products with 2,5-furandione, dihydro-:**

Remarks : No data available

Further information**Product:**

Remarks : Solvents may degrease the skin.

SECTION 12: Ecological information**Ecotoxicity****Product:**

Toxicity to fish :
Remarks: No data available

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

Components:**trimethoxyvinylsilane:**

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 191 mg/l
Exposure time: 96 h
GLP: no

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 168.7 mg/l
Exposure time: 48 h
Method: Regulation (EC) No. 440/2008, Annex, C.2
GLP: yes

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Alcohol, C13-15-ethoxylated, reaction products with 2,5-furandione, dihydro-:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 3.5 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
GLP: yes

Toxicity to algae/aquatic plants : ErC50 (Selenastrum capricornutum): > 0.78 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
GLP: yes

M-Factor (Acute aquatic toxicity) : 1

M-Factor (Chronic aquatic toxicity) : 1

2-methoxy-1-methylethyl acetate:

Toxicity to fish : LC50 (Fish): 100 - 180 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 203
GLP: no

Toxicity to algae/aquatic plants : EC50 (Pseudokirchneriella subcapitata (green algae)): > 1,000 mg/l
Exposure time: 96 h
Test Type: static test
Method: OECD Test Guideline 201
GLP: no

Persistence and degradability**Product:**

Biodegradability : Remarks: No data available

Components:**trimethoxyvinylsilane:**

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

Alcohol, C13-15-ethoxylated, reaction products with 2,5-furandione, dihydro-:

Biodegradability : Remarks: No data available

2-methoxy-1-methylethyl acetate:

Biodegradability : Result: Readily biodegradable.
Method: OECD Test Guideline 301F
GLP: yes

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Bioaccumulative potential**Product:**

Bioaccumulation : Remarks: No data available

Components:**Alcohol, C13-15-ethoxylated, reaction products with 2,5-furandione, dihydro-:**

Bioaccumulation : Remarks: No data available

2-methoxy-1-methylethyl acetate:

Partition coefficient: n-
octanol/water : log Pow: 1.2 (20 °C)
pH: 6.8
Method: OECD Test Guideline 117
GLP: yes

Mobility in soil

No data available

Other adverse effects**Product:**

Additional ecological
information : An environmental hazard cannot be excluded in the event of
unprofessional handling or disposal.
Toxic to aquatic life with long lasting effects.

SECTION 13: Disposal information**Disposal methods**

Waste from residues : The product should not be allowed to enter drains, water
courses or the soil.
Do not contaminate ponds, waterways or ditches with
chemical or used container.
Send to a licensed waste management company.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: Transport information**International Regulations****IATA-DGR**

UN/ID No. : UN 1993
Proper shipping name : Flammable liquid, n.o.s.
(trimethoxyvinylsilane)
Class : 3
Packing group : III
Labels : Flammable Liquids

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Packing instruction (cargo aircraft) : 366
Packing instruction (passenger aircraft) : 355

IMDG-Code
UN number : UN 1993
Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(trimethoxyvinylsilane)
Class : 3
Packing group : III
Labels : 3
EmS Code : F-E, S-E
Marine pollutant : yes
Remarks : IMDG Code segregation group - none

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

Not applicable for product as supplied.

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15: Regulatory information**Safety, health, and environmental regulations specific for the hazardous chemical**

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013.

Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.

SECTION 16: Other information

Date format : dd.mm.yyyy

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI : ACGIH - Biological Exposure Indices (BEI)
MY PEL : Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000.
ACGIH / TWA : 8-hour, time-weighted average
ACGIH / STEL : Short-term exposure limit
MY PEL / TWA : Eight-hour time-weighted average airborne concentration

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule;

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ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TECl - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

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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