

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**Product identifier**

Tradename:

Stik-Kote®**1.1. Relevant identified uses of the substance or mixture and uses against:****1.1.1. Identified uses:**

Product use as spray adjuvant

1.1.2. Uses advised against:

No data

1.2. Details of the supplier of the safety data sheet:

3D BioSciences, LLC

P. O. Box 22693

Knoxville, TN 37933

Phone: (469) 277-7758

e-mail: info@3DBioSci.com

Person responsible for SDS: e-mail: MNouvel@3DBioSci.com

1.3. Emergency telephone number:

3D BioSciences, LLC

P. O. Box 22693

Knoxville, TN 37933

Phone: (469) 277-7758

National Pesticide Information Center at 1-800-858-7378 6:30 AM to 4:30 PM Pacific Time (PT), seven days a week.
During other times, call the poison control center at 1-800-222-1222.

SECTION 2: HAZARDS IDENTIFICATION**2.1. Classification of the substance or mixture:****According to regulation 29 CFR 1910.1200:**

Product is classified as hazardous:

Acute Tox. 4 H332 Harmful if inhaled.

Eye Irrit. 2 H319 Causes serious eye irritation.

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects

Health hazards: harmful if inhaled, irritating in contact with eyes.

Environmental hazards: toxic to aquatic life, may cause long lasting adverse effect to aquatic environment

Physical hazards: none.

Fire hazards: product does not contain any flammable substances.

2.2. Label elements**According to regulation 29 CFR 1910.1200:****Pictograms:**

GHS07



GHS09

Signal words: WARNING



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Hazard Statement:

H319 Causes serious eye irritation
H332 Harmful if inhaled.
H411 Toxic to aquatic life with long lasting effects

Precautionary statement:

P102 Keep out of reach of children.
P261 Avoid breathing mist/vapors/spray.
P264: Wash hands thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves / eye protection / face protection.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a poison center or doctor if you feel unwell.
P501 Dispose of contents/container to point authorized to receive hazardous waste.

Hazardous components to be placed on the label:

Polyalkyleneoxide modified heptamethyltrisiloxane

2.3. Other hazards:

Product does not meet the criteria for PBT or vPvB according to Annex XIII of REACH regulation

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures.

Product is a mixture

Product contains polymeric silica compound, other polymers, siloxanes and antioxidant.

Content of hazardous compounds (compounds below general and specific concentration thresholds, not identified as PBT/vPvB, not listed as SVHC and not having community TLVs are not mentioned):

Chemical name	CAS No/ EC No	REACH Registration No	Index No	Content	Hazard class and hazard statement
Polyalkyleneoxide modified heptamethyltrisiloxane	CAS: 67674-67-3	Polymer	None	< 75 % w/w	Acute Tox. 4 (inhal.), H332 Eye Irrit. 2, H319 Aquatic Chronic 2, H411

Meaning of hazards classes and categories and full H phrases are given in Section 16.

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures.

General recommendations:

Remove injured person from a polluted environment. Remove any contaminated clothing, place in a comfortable position, provide fresh air and heat. Loosen tight clothing such as a collar, tie, belt or waistband. Never give anything by mouth to an unconscious person. In the event of health problems, immediately contact doctor, show SDS or label of the product. Inform medical personnel of first aid provided.

Skin contamination: wash contaminated skin with water and soap. In case of skin irritation get medical help. Contaminated clothing must be washed before reuse.

Eye contamination: rinse widely open eyes with clean water or dedicated fluid for 15 minutes, get medical help.

Inhalation exposure: remove the victim from exposure area, when breathing difficulties provide oxygen, get medical help if needed.

Ingestion: rinse mouth with plenty of water, get medical help immediately. Do not induce vomiting. If occurs, keep victim's head low to avoid getting the product into respiratory tract.

Protection of first aid responders

Do not take any action that would create a risk to the rescuer unless suitable trained and aware of risks.

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

Acute symptoms – eye irritation (lachrymation, reddening)

Delayed symptoms – no data

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

Information for the physician: no known antidote, treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES**5.1. Extinguishing media.**

Suitable extinguishing media: for small fires use foam, snow or powder extinguisher. For large fires use foam or water mist.

Unsuitable extinguishing media: strong stream of water, risk of environment contamination spread.

5.2. Special hazards arising from the substance or mixture.

During the fire of the product following compounds might be emitted – carbon oxides, silica oxides, formaldehyde, other hazardous gases. Avoid breathing of combustion products, they might be hazardous to health.

5.3. Advice for firefighters:

Unconditionally use personal breathing apparatus and wear appropriate protective clothing during firefighting and cleaning after the fire inside closed and poorly ventilated rooms.

General advice: evacuate all unauthorized personnel not taking action during firefighting.

Additional remarks: containers and packages endangered by fire or high temperature should be cooled down by water from a safe distance (explosion risk), or relocated from area of fire if possible and safe. Fire residues and contaminated extinguishing media has to be disposed according to current regulation. Do not dispose extinguishing media to sewers.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures:**

Avoid contact with released product. Protect eyes and skin, do not inhale vapors/mist of the product. Use recommended personal protection measures. Ventilate closed areas.

6.2. Environmental precautions:

Do not allow the product to get to the sewers, ground and surface waters. Do not rinse product to the sewers. In case of water contamination - inform appropriate authorities immediately.

6.3. Methods and material for containment and cleaning up:

In case of unsealed container or spillage secure source of contamination and move product to empty container. Spillages should be treated by appropriate sorbent (sand, sawdust, diatomaceous earth, vermiculite, universal sorbent), collected to closed container, labelled and safely disposed. Area of spillage should be cleaned. Cleaning up should be conducted under appropriate ventilation.

6.4. Reference to other sections:

Personal protection measures – Section 8



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SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling:

Read label before use of the product. Avoid direct contact with mouth, skin and eyes. Do not eat or drink during product handling. Wash hands and face after usage. Product should be used only as intended.

Special precautions against fire and explosion:

None.

Industrial hygiene:

- sufficient ventilation of work area is recommended (general and local exhaust ventilation)
- provide place for eye and wash cleaning in case of contamination.
- wash hands by water and soap before eating, smoking and after work end.
- follow common safety precautions of chemicals handling.

7.2. Conditions for safe storage, including any incompatibilities:

Keep only in the original, closed containers. Avoid water and humidity during storage. Keep the product away from children, food, beverage, and animal feed. Store and transport at temperatures of 0 to 35 °C.

7.3. Specific end use(s):

See Section 1.2.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational Exposure Limit Value:

There is no exposure standard allocated to hazardous components of this product.

DNELs (Derived No Effect Levels) for mixture components:

Route of exposure	Workers				General population (consumers)			
	Acute local Effects	Acute systemic effects	Chronic local effects	Chronic systemic effects	Acute local Effects	Acute systemic effects	Chronic local effects	Chronic systemic effects
Ingestion	n. d.	n. d.	n. d.	n. d.	n. d.	n. d.	n. d.	n. d.
Inhalation	n. d.	n. d.	n. d.	n. d.	n. d.	n. d.	n. d.	n. d.
Dermal	n. d.	n. d.	n. d.	n. d.	n. d.	n. d.	n. d.	n. d.

n. d. – no data

8.2. Exposure controls:

Technical control measures:

General or local mechanical ventilation of working area is sufficient.

Individual protection measures:

a) respiratory protection – not necessary under normal conditions with sufficient ventilation, required during exposure to high concentrations of vapors. When needed use half mask with SA type filter.

b) Hand protection – use protective gloves. Wear protective gloves made of: butyl rubber, neoprene, nitrile rubber, polyvinylchloride, thickness min. 0.4 – 0.7mm. The Breakthrough Time > 480 min. Material of gloves must be resistant to the product. As the product is a mixture of several substances, the resistance of material of gloves cannot be calculated in advance and therefore has to be checked before use. From the manufacturer's advice should be obtained information about the time of the penetration of substances and such time must be respected. The Breakthrough Time indicated by the manufacturer must exceed the period

during which the product is being used. It is recommended to change gloves and replace them immediately if you notice any signs of wear, damage (rupture, perforation) or changes in appearance (color, flexibility, shape).

c) Eye protection – recommended protective glasses.

d) Skin protection –protective clothing

Protective equipment standards:

EN 140:2001 Respiratory protective devices - Half masks and quarter masks - Requirements, testing, marking

EN 143:2004 Respiratory protective devices - Particle filters - Requirements, testing, marking.

EN 149+A1:2010 Respiratory protective devices - Filtering half masks to protect against particles - Requirements, testing, marking.

EN 14387+A1:2010 Respiratory protective devices - Gas filter(s) and combined filter(s) - Requirements, testing, marking.

EN 374-1:2005 Protective gloves against dangerous chemicals and micro-organisms -- Part 1: Terminology and performance requirements for chemical risks

EN 374-2:2005 Protective gloves against chemicals and micro-organisms - Part 2: Determination of resistance to penetration

EN 374-3:2005 Protective gloves against chemicals and micro-organisms – Part 2: Determination of resistance to permeation by chemicals

PN-EN 166:2005 Personal eye protection. Specifications

PN-EN 14605+A1:2010 Protective clothing against liquid chemicals. Performance requirements for clothing with liquid-tight (Type 3) or spray-tight (Type 4) connections, including items providing protection to parts of the body only (Types PB [3] and PB [4])

PN-EN ISO 20344:2012 Personal protective equipment -- Test methods for footwear

Environmental exposure controls:

Do not allow the product to get to the soil, surface and ground water.

PNECs (Predicted No Effect Concentrations) for mixture components:

Compartment	
Fresh water	No data
Sediment – fresh water	No data
Marine water	No data
Sediment – marine water	No data
Intermittent releases (freshwater)	No data
Food chain	No data
Biological sewage treatment plant	No data
Soil (agriculture)	No data
Air	No data

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties:

Appearance:	Clear, colorless liquid
Odor:	faint, characteristic
Odor threshold:	No data
pH:	5.87 (1% water emulsion)
Melting point/freezing point:	No data
Initial boiling point and boiling range:	No data
Flash point:	> 100 °C
Evaporation rate:	No data
Flammability:	Not applicable

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Upper/lower flammability or explosive	Not applicable
Vapor pressure:	No data
Vapor density:	No data
Relative density (20°C):	1.01 – 1.02
Solubility in water:	insoluble, emulsifies at 0.2 %
Partition coefficient: n-octanol/water:	Not applicable
Auto-ignition temperature:	No data
Decomposition temperature:	No data
Viscosity:	No data
Explosive properties:	None, no ingredients with explosive properties
Oxidizing properties:	None, no ingredients with oxidizing properties

9.2. Other information: no data

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity:

Product is not reactive under recommended conditions of storage and handling.

10.2. Chemical stability:

Product is stable under recommended conditions of storage and handling.

10.3. Possibility of hazardous reactions:

No data.

10.4. Conditions to avoid:

High temperatures, direct sunlight, humidity.

10.5. Incompatible materials:

No data

10.6 Hazardous decomposition products:

Under recommended conditions of storage and handling product does not decompose with evolution of hazardous decomposition products.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects:

Classification of the product was conducted by calculation method according to regulation 29 CFR 1910.1200 based on the content of hazardous ingredients:

Acute toxicity (estimated):

Acute Oral Toxicity: based on data available classification criteria are not met, $ATE_{mix} > 2000$ mg/kg

Acute Dermal Toxicity: based on data available classification criteria are not met, $ATE_{mix} > 2000$ mg/kg

Acute Inhalation Toxicity: product classified as harmful if inhaled, $ATE_{mix} = 2.67$ mg/L (dust and mists)

Skin corrosion/irritation: based on data available classification criteria are not met

Serious eye damage/irritation: product classified as causing serious eye irritation.

Respiratory or skin sensitization: based on data available classification criteria are not met.

Germ cell mutagenicity: product does not contain any compounds with germ cell mutagenicity hazard.

Carcinogenicity: product does not contain any compounds with carcinogenic hazard

Reproductive toxicity: product does not contain any compounds with reprotoxic hazard

STOT-single exposure: based on data available classification criteria are not met

STOT-repeated exposure: based on data available classification criteria are not met

Aspiration hazard: based on data available classification criteria are not met

Potential health effects:**Ingestion** – may cause digestive system irritation.**Inhalation** – product is harmful, may cause irritation to respiratory system.**Skin** – may cause irritation, sensitisation symptoms.**Eyes** – causing serious eye irritation.**Toxicological data for product hazardous compound (Polyalkyleneoxide modified heptamethyltrisiloxane):**Acute toxicity, oral (rat): LD₅₀ > 2000 mg/kgAcute toxicity, dermal (rat): LD₅₀ > 4000 mg/kgAcute toxicity, inhalation (rat): LC₅₀ = 2 mg/l/4h (aerosol)Acute toxicity, inhalation (rat): LC₅₀ = 11.78 mg/l/4h (aerosol – 5% water emulsion)

Skin irritation (rabbit): no skin irritation

Eye irritation (rabbit): strongly irritating

Sensitization (guinea pig): not sensitizing

Repeated dose toxicity, oral (rat): NOAEL:150 mg/kg (28 days)

Germ cell mutagenicity:

- Ames-Test, result: negative (not mutagenic)

- Chromosomal aberration, result: negative

- Mammalian cytogenicity test, result: negative

- Micronucleus Test (OECD 474), result: negative

SECTION 12: Ecological information**12.1. Toxicity:**

Classification of the product was conducted by calculation method according to regulation 1272/2008 based on the content of hazardous ingredients.

Classified as toxic to aquatic life with long lasting effects (category 2).

12.2. Persistence and degradability:

Product has not been tested for biodegradation, but it is not expected to be readily biodegradable based on test results from a chemically similar product. However, this product is subject to rapid hydrolysis under acidic or basic conditions.

12.3. Bioaccumulative potential:

No data

12.4. Mobility in soil:

No data

12.5. Results of PBT and vPvB assessment:

Product does not meet the criteria for PBT or vPvB.

12.6. Other adverse effects:

No data

Ecotoxicological data for product hazardous compound (Polyalkyleneoxide modified heptamethyltrisiloxane):Acute toxicity to fish (*Danio rerio*): LC₅₀ (96 h): 6.8 mg/LAcute toxicity to freshwater invertebrates (*Daphnia magna*): EC₅₀ (48 h): 25 mg/LAcute toxicity to algae (*Pseudokirchneriella subcapitata*): EC₅₀ (96h): 32 mg/L



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SECTION 13: Disposal considerations

13.1. Waste treatment methods:

Wastes of the product: Unused remains keep in original containers. Get the wastes to the establishment authorized for transport, recovery, and disposal of wastes. Do not enter product remains to the sewers, surface waters, soil.

Suggested waste code: 16 03 05* organic wastes containing dangerous substances.

Disposal of empty packaging: Recycling or disposal of empty packaging must be performed in compliance with current legislation (see Section 15).

Waste code: 15 01 10* packaging containing residues of or contaminated by dangerous substances.

SECTION 14: TRANSPORT INFORMATION

14.1. UN number: 3082
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S (Polyalkyleneoxide modified heptamethyltrisiloxane)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
14.5. Environmental hazards: Yes, Marine Pollutant
14.6. Special precautions for user:
Road transport (DOT): Labels: 9
Special precautions for user: Read safety instructions, SDS and emergency procedures before handling.
Special provisions: 8, 146, 335, IB3, T4, TP1, TP29
Packaging exceptions: 155
Packaging: non bulk 203
Packaging: bulk 241

Air transport (IATA DGR): Class or Div.: 9
Hazard Label: Miscellaneous
Passenger and Cargo Aircraft PI: 964
Cargo Aircraft Only PI: 964

Special provision A197: These substances when carried in single or combination packaging containing a net quantity per single or inner packaging of 5 l or less for liquids or having a net mass per single or inner packaging 5 kg or less for solids, are not subject to any other provisions of these Regulations provided the packaging meet the general provisions of 5.0.2.4.1, 5.0.2.6.1.1 and 5.0.2.8

Marine transport (IMDG): EmS codes: F-A, S-F
Marine pollutant: yes

Provision 2.10.2.7 of IMDG CODE:

"Marine pollutants packaged in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 kg or less for solids are not subject to any other provisions of this Code relevant to marine pollutants provided the packaging meet the

general provisions of 4.1.1.1, 4.1.1.2 and 4.1.1.4 to 4.1.1.8.
In the case of marine pollutants also meeting criteria for inclusion in another hazard class, all provision of this Code relevant to any additional continue to apply”

SECTION 15: REGULATORY INFORMATION**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture:**

- Regulation (EC) No 1907/2006 of the European Parliament and of the Council from 18.12.2006 concerning the Registration, Evaluation, Authorization and Restriction from Chemicals (REACH)
 - Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006
 - Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH)
 - European agreement concerning international road transport of dangerous products (ADR)
 - DIRECTIVE 2012/18/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on the control of major-accident hazards involving dangerous substances, amending and subsequently repealing Council Directive 96/82/EC
- Federal, State and Local regulations

Directive 2012/18/UE:

Named dangerous substances - ANNEX I none of the product ingredients is listed

Seveso category E2 Hazardous to the Aquatic Environment

Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of lower-tier requirements - 200 t

Qualifying quantity (tonnes) of dangerous substances as referred to in Article 3(10) for the application of upper-tier requirements - 500 t

TSCA

All components of the product are listed as "Active" on the U.S. Toxic Substances Control Act (TSCA) inventory

15.2. Chemical safety assessment:

Chemical safety assessment was not conducted for the product.

SECTION 16: OTHER INFORMATION

Explanation of risk phrases and hazard category referring hazardous substance contained in product:

Acute Tox. 4 (inh) acute toxicity by inhalation, category 4

Eye Irrit. 2, irritating to eyes, category 2

Aquatic Chronic 2, substance dangerous to aquatic life, chronic, category 2

H319 Causes serious eye irritation

H332 Harmful if inhaled.

H411 Toxic to aquatic life with long lasting effects

Explanation of abbreviations and acronyms used in the SDS:

CAS – Chemical Abstracts Service

DOT – Department of Transportation

EINECS – Number assigned to a substance in the European Inventory of Existing Commercial Chemical Substances

PBT – persistence, bioaccumulation potential and toxicity

vPvB – very high durability and very bioaccumulative

TLV – threshold limit value in the workplace

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STEL – short term exposure limits maximum of a substance harmful to health in the workplace

ATE_{mix} – acute toxicity estimate for mixture

LD₅₀ – Lethal Dose, 50%

LC₅₀ – Lethal Concentration, 50%

EC₅₀ – Effect Concentration 50%

UN number – identification number of the material (the number of UN, UN number)

IMDG – International Maritime Dangerous Goods Code

SDS was prepared in accordance with 29 CFR 1910.1200

Classification of mixture was made according to content of hazardous components according to the Regulation 29 CFR 1910.1200 and environmental hazards according to (EC) No 1272/2008.

Training: Personnel should be trained prior to handling of the product.

Recommendation and restriction of use: Use according to label. Additional safety information available at producer.

Source of data: this SDS was prepared based on SDS of ingredients, data of product, literature, and our knowledge and experience according to actual legislation:

ECHA European Chemicals Agency

Disclaimer: information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal, and release and is not to be considered as a warranty or quality specification. End user is responsible for inappropriate use of information enclosed in SDS or inappropriate use of product.