



HUBEI BLUESKY

Material Safety Data Sheet

Revision Date: 2019-05-12

HUBEI BLUESKY(R) LT-171

1. PRODUCT AND COMPANY IDENTIFICATION

1.1 Name of substance/preparation

Commercial product name: LT-171

Chemical name: Vinyl tri methoxy silane

1.2 Use of substance/preparation

Relevant applications identified For industrial use

Function Coupling agent

Crosslinking agents

1.3 Company information

Manufacturer/distributor: Hubei Bluesky New Material Inc.

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1.4 Revision date

2016.05.12

2. HAZARDS IDENTIFICATION

2.1 Emergency overview

Flammable. Moisture sensitive

According to Regulation (EC) No1272/2008

Flammable liquids Category 3

Acute toxicity, oral Category 4



Pictogram

Signal word

Danger

Hazard statement(s)

H226 Flammable liquid and vapour.

H332 Harmful if inhaled.

Precautionary statement(s)

P210 Keep away from heat/sparks/open flames/hot surfaces.

P261 Avoid breathing dust/fume/gas/mist/vapors/spray.

Reaction statement(s)

P303 + P361 + P353 IF ON SKIN: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

P304 + P340 IF INHALED: Remove victim to fresh air and keep at rest in a



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P312 position comfortable for breathing.
Call a POISON CENTER or doctor/ physician if you feel unwell.

Storage statement(s)
P403 + P235 Store in a well-ventilated place. Keep cool.

2.2 Other hazards

None known

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Chemical characterization (substance)

CAS No.	Chemical characteristics
2768-02-7	Vinyltrimethoxysilane

3.2 Hazardous ingredients

Chemical name	CAS No.	Concentration
Vinyltrimethoxysilane	2768-02-7	≥99.0%
Methanol	67-56-1	≤1.0%

Notes: Additional methanol may be formed by reaction with moisture. Harmful if swallowed.

4. FIRST AID MEASURES

4.1 General information

Take persons to a safe place. Observe self-protection for first aid.

4.2 After inhalation

Move the exposed person to fresh air at once. Keep the patient calm. Protect against loss of body heat. If breathing stops, administer artificial respiration. Seek medical advice immediately and clearly identify substance.

4.3 After contact with the skin

Remove contaminated clothes at once. Wash off with plenty of water or water and soap immediately for 10-15 minutes. In serious cases, use emergency shower immediately. Seek medical advice immediately and clearly identify substance.

4.4 After contact with the eyes

Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15-30min while holding the eyelid(s) open. If contact lens is present, DO NOT delays irrigation or attempt to remove the lens. Neutral saline solution may be used as soon as available. Do not interrupt flushing. If necessary, continue flushing during transport to emergency care facility. Take care not to rinse contaminated water into the unaffected eye or onto the face. Seek medical advice immediately and clearly identify substance. Continue to bathe eyes during transport to medical practitioner.

4.5 After swallowing



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If conscious, give several small portions of water to drink. Do not induce vomiting. Seek medical advice immediately and clearly identify substance.

4.6 Advice for the physician

Product may hydrolyze upon contact with body fluids in the gastrointestinal tract to produce additional methanol; therefore, consider the signs/symptoms of methanol poisoning and also observe the known latency period of several days.

5. FIRE FIGHTING MEASURES

5.1 Flash point and sensitivity to static discharge

25°C (Test method: tag closed cup), sensitivity to static discharge is expected.

5.2 Suitable extinguishing media

Water mist, extinguishing powder, alcohol-resistant foam, carbon dioxide, sand.

5.3 For fighting measures

Self-contained breathing apparatus and protective clothing should be worn in fighting large fires involving chemicals. Determine the need to evacuate or isolate the area according to your local emergency plan. Use water spray to keep fire exposed containers cool.

5.4 Special protective equipment for fire fighting

Use respiratory protection independent of recirculated air.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions

Wear personal protection equipment (see section 8). Keep unprotected persons away. Avoid contact with eyes and skin. Avoid inhaling mists or vapours. If material is released indicate risk of slipping.

6.2 Environmental precautions

Prevent material from entering surface waters, drains or sewers and soil. Contain any fluid that runs out using suitable material. Retain contaminated water/extinguishing water.

6.3 Methods for cleaning up

Do not flush away with water. For small amounts: Absorb with a liquid binding material such as diatomaceous earth and dispose of according to local/state/federal regulations. Contain larger amounts and pump up into suitable containers. Clean any slippery coating that remains using a detergent/soap solution or another biodegradable cleaner.

Other information: Eliminate all sources of ignition.

7. HANDLING AND STORAGE

7.1 Handling

Precautions for safe handling:

Ensure adequate ventilation. Keep away from incompatible substances, such as moisture. Spilled substance increases risk of slipping.

Precautions against fire and explosion:

Product can separate methanol. Flammable vapors may accumulate and form explosive mixtures



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with air in containers, process vessels, including partial, empty and unclean containers and vessels, or other enclosed spaces. Keep away from sources of ignition and do not smoke. Take precautionary measures against electrostatic charging. Cool endangered containers with water.

7.2 Storage

Conditions for storage rooms and vessels:

Make sure there is no possibility of entering the ground.

Advice for storage of incompatible materials:

Not applicable

Further information for storage:

Protect against moisture. Store in original container only. Keep container tightly closed and store in a cool, well ventilated place.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Exposure limits

Component	CAS No.	Source	Value
Methanol	67-56-1	ACGIH, TWA	200ppm
Methanol	67-56-1	ACGIH, STEL	250ppm
Methanol	67-56-1	ACGIH, SKIN_DES	Can be absorbed through the skin.
Methanol	67-56-1	OSHA Z1, PEL	200ppm; 260mg/m ³

Absence of values indicates was not found.

PEL-OSHA: Permissible Exposure Limit; TLV-ACGIH: Threshold Limit Value; TWA: Time Weighted Average; INTL REL: Internal Recommended Exposure Limit. OSHA revoked the Final Rule Limits of January 19, 1989 in response to the 11th Circuit Court of Appeals decision (AFL-CIO v. OSHA) effective June 30, 1993. See 29 CFR 1910.1000 (58 FR 35338).

8.2 Exposure limited and controlled

8.2.1 Exposure in the work place limited and controlled

General protection and hygiene measures:

Avoid contact with eyes and skin. Do not inhale gases/vapours/aerosols. Do not eat, drink or smoke when handling.

Personal protection equipment, respiratory protection

In case of long or strong exposure: gas mask filters ABEK.

Hand protection

Protective gloves made of butyl rubber. Gloves suitable for up to 60 minutes' use.

Eye protection

Tight fitting protective goggles.

Skin protection

Protective clothing.

8.2.2 Exposure to the environment limited and controlled

Prevent material from entering surface waters and soil.



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9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 General information

Physical state/form.....: liquid
Color.....: colorless
pH.....: no data available
Boiling point.....: 123°C (1013 hPa)
Melting point.....: -97 °C
Flash point.....: 25°C
Molecular Weight.....: 148.24g/mol
Refractive index n_D^{25}: 1.3930
Ignition temperature.....: no data available
Oxidizing properties.....: no
Upper explosion limit.....: no data available
Lower explosion limit.....: no data available
Vapor pressure.....: no data available
Vapor density.....: no data available
Density/relative density.....: 0.9718g/cm³(25°C)
Solubility.....: react with water
Heat of combustion.....: no data available
Viscosity(dynamic).....: no data available

9.2 Other information

Solubility in water: hydrolytic decomposition occurs. Explosion limits for released methanol: 5.5-44% (V).

10. STABILITY AND REACTIVITY

10.1 General information

If stored and handled in accordance with standard industrial practices no hazardous reactions are known.

10.2 Conditions to avoid

Stable under normal conditions. Vinyl polymerization may occur at temperatures: >150 °C (in the presence of air).

10.3 Materials to avoid

Oxidizing material can cause a reaction. Water, moisture, or humid air can cause hazardous methanol vapor to form.

10.4 Hazardous thermal decomposition

Burning can produce the following combustion products: carbon oxides, oxides of silicon, carbon monoxide is highly toxic if inhaled; carbon dioxide in sufficient concentrations can act as an asphyxiant. Acute overexposure to the products of combustion may result in irritation of the respiratory tract.



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11. TOXICOLOGICAL INFORMATION

11.1 Toxicological tests

Acute toxicity (LD50/LC50-values relevant to classification):

Exposition	Value/value range	Species	Source
Oral	7100 mg/kg	rat	Literature
Dermal	3200 mg/kg	rabbit	Literature

Primary irritation:

Exposition	Effect	Species	Source
To skin	Not irritating	rabbit	Literature

11.2 Other information

Exposure of primates for about 3 months to organosilane ester vapor at 100ppm (6 hr/day for 5 days/week) did not cause any adverse effects on the respiratory tract, but did result in mild eye irritation and minor anemia. No such effects were seen at 10ppm. In another experiment, exposure of rats to 750ppm and higher vapor concentrations for 6 hr/day for 9 days produced nasal mucosal inflammation, minor anemia, and kidney injury, with mortalities at concentrations around 1500ppm. For rats, a marginal effects concentration was established at 150ppm for short-term repeated overexposure, on the basis of body weight changes. In a subsequent subchronic (14 week) study in rats it was found that kidney injury was produced at 400ppm which was reversible over a 4-week recovery period. Marginal signs of toxicity were seen at 100ppm, and 10ppm was a no-effects concentration by subchronic exposure. The material was not mutagenic in an Ames bacterial assay, a forward gene mutation test in CHO cells, and in a test to assess sister chromatid exchanges in CHO cells. An in vitro cytogenetics test in CHO cells showed a concentration-related increase in the incidence of chromosome aberrations, particularly in the presence of a metabolic activation system. However, with a micronucleus test in mice the material did not produce any evidence for clastogenic activity. This in vivo finding must be regarded as having the greater relevance with respect to biological implications.

12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Species	Method	Exp. time	Result	Source
rainbow trout	acute	96 h	191 mg/l (LC50)	Test report
Daphnia magna	acute	48 h	169 mg/l (LC50)	Test report
Selenastrum capricornutum	acute	72 h	210 mg/l (IC50)	Test report

12.2 Additional information

According to current knowledge adverse effects on water purification plants are not expected.

13. DISPOSAL CONSIDERATIONS



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13.1 Material

Dispose of according to regulations by incineration in a special waste incinerator. Observe local/state/federal regulations.

13.2 Unclean packaging

Completely discharge containers (no tear drops, no powder rest, scraped carefully). Containers may be recycled or re-used. Observe local/state/federal regulations.

14. TRANSPORT INFORMATION

14.1 Land transport regulations

Valuation.....: hazardous product
Class.....: 3
Packing group.....: III
UN-Number.....: 1993
Technical name.....: vinyltrimethoxysilane
EMS.....: F-E; S-E

14.2 Transport by sea

Valuation.....: hazardous product
Class.....: 3
Packing group.....: III
UN-Number.....: 1993
Proper shipping name.....: flammable liquid, N.O.S.
Technical name.....: vinyltrimethoxysilane
Marine pollutant.....: no
EMS.....: F-E; S-E

14.3 Transport by air

Valuation.....: hazardous product
Class.....: 3
Packing group.....: III
UN-Number.....: 1993
Proper shipping name.....: flammable liquid, N.O.S.
Technical name.....: vinyltrimethoxysilane
EMS.....: F-E; S-E

15. REGULATORY INFORMATION

15.1 National regulations

National and local regulations must be observed. For information on labeling please refer to section 2 of this document.

15.2 Other international regulations

Listed on or in accordance with the following inventories:

IECSC.....: China



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PICCS.....: Philippines
ECL.....: Korea
AICS.....: Australia
DSL.....: Canada
TSCA.....: USA
ENCS.....: Japan

16. OTHER INFORMATION

Prepared by Hubei Bluesky New Material Inc.

(R) indicates Registered Trademark

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

-End of Material Safety Data Sheet-