

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

SECTION 1. IDENTIFICATION

Product name : DOW CORNING(R) 88 ADDITIVE

Product code : 000000000004096490

Manufacturer or supplier's details

Company name of supplier : Dow Corning Corporation

Address : South Saginaw Road
Midland Michigan 48686

Telephone : (989) 496-6000

Emergency telephone : 24 Hour Emergency Telephone : (989) 496-5900
CHEMTREC : (800) 424-9300**Recommended use of the chemical and restrictions on use**

Recommended use : Impregnation agents

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Flammable liquids : Category 2

Eye irritation : Category 2A

Skin sensitization : Category 1

Reproductive toxicity : Category 2

GHS Label element

Hazard pictograms :



Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapor.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H361 Suspected of damaging fertility or the unborn child.Precautionary Statements : **Prevention:**
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

DOW CORNING(R) 88 ADDITIVE

Version 1.0 Revision Date: 01/26/2015 MSDS Number: 993926-00001 Date of last issue: -
Date of first issue: 01/26/2015

P233 Keep container tightly closed.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ ventilating/ lighting/ equipment.
P242 Use only non-sparking tools.
P243 Take precautionary measures against static discharge.
P261 Avoid breathing spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P363 Wash contaminated clothing before reuse.
Storage:
P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

Static-accumulating flammable liquid.
Vapors may form explosive mixture with air.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture
Chemical nature : Alkoxysilane

Hazardous ingredients

Chemical Name	CAS-No.	Concentration (%)
Methyltrimethoxysilane	1185-55-3	>= 5 - < 10
Triethoxyoctylsilane	2943-75-1	>= 5 - < 10
Titanium tetrabutanolate	5593-70-4	>= 1 - < 5
Octamethylcyclotetrasiloxane	556-67-2	>= 1 - < 5
Methanol	67-56-1	>= 0.1 - < 1
Dimethyldimethoxysilane	1112-39-6	>= 0.1 - < 1

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

SECTION 4. FIRST AID MEASURES

- | | |
|---|--|
| General advice | : In the case of accident or if you feel unwell, seek medical advice immediately.
When symptoms persist or in all cases of doubt seek medical advice. |
| If inhaled | : If inhaled, remove to fresh air.
Get medical attention if symptoms occur. |
| In case of skin contact | : In case of contact, immediately flush skin with plenty of water.
Remove contaminated clothing and shoes.
Get medical attention.
Wash clothing before reuse.
Thoroughly clean shoes before reuse. |
| In case of eye contact | : In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
If easy to do, remove contact lens, if worn.
Get medical attention. |
| If swallowed | : If swallowed, DO NOT induce vomiting.
Get medical attention if symptoms occur.
Rinse mouth thoroughly with water. |
| Most important symptoms and effects, both acute and delayed | : May cause an allergic skin reaction.
Causes serious eye irritation.
Suspected of damaging fertility or the unborn child. |
| Protection of first-aiders | : First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists. |
| Notes to physician | : Treat symptomatically and supportively. |

SECTION 5. FIRE-FIGHTING MEASURES

- | | |
|---------------------------------------|---|
| Suitable extinguishing media | : Water spray
Alcohol-resistant foam
Dry chemical
Carbon dioxide (CO2) |
| Unsuitable extinguishing media | : High volume water jet |
| Specific hazards during fire fighting | : Do not use a solid water stream as it may scatter and spread fire.
Flash back possible over considerable distance.
Vapors may form explosive mixtures with air.
Exposure to combustion products may be a hazard to health. |
| Hazardous combustion products | : Carbon oxides
Silicon oxides |

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

Formaldehyde
Metal oxides

- Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.
- Special protective equipment for fire-fighters : In the event of fire, wear self-contained breathing apparatus.
Use personal protective equipment.

SECTION 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions, protective equipment and emergency procedures : Remove all sources of ignition.
Ventilate the area.
Use personal protective equipment.
Follow safe handling advice and personal protective equipment recommendations.
- Environmental precautions : Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.
- Methods and materials for containment and cleaning up : Non-sparking tools should be used.
Soak up with inert absorbent material.
Suppress (knock down) gases/vapors/mists with a water spray jet.
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container.
Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable.
Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7. HANDLING AND STORAGE

- Technical measures : Ensure all equipment is electrically grounded before beginning transfer operations.
This material can accumulate static charge due to its inherent physical properties and can therefore cause an electrical ignition source to vapors. In order to prevent a fire hazard, as bonding and grounding may be insufficient to remove static

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

electricity, it is necessary to provide an inert gas purge before beginning transfer operations.
Restrict flow velocity in order to reduce the accumulation of static electricity.

- Local/Total ventilation : Use with local exhaust ventilation.
Use only in an area equipped with explosion proof exhaust ventilation.
- Advice on safe handling : Do not get on skin or clothing.
Do not breathe vapors or spray mist.
Do not swallow.
Do not get in eyes.
Handle in accordance with good industrial hygiene and safety practice.
Non-sparking tools should be used.
Keep container tightly closed.
Keep away from water.
Protect from moisture.
Keep away from heat and sources of ignition.
Take precautionary measures against static discharges.
Take care to prevent spills, waste and minimize release to the environment.
- Conditions for safe storage : Keep in properly labeled containers.
Keep tightly closed.
Keep in a cool, well-ventilated place.
Store in accordance with the particular national regulations.
Keep away from heat and sources of ignition.
- Materials to avoid : Do not store with the following product types:
Strong oxidizing agents
Organic peroxides
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures which in contact with water emit flammable gases
Explosives
Gases

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Methyltrimethoxysilane	1185-55-3	TWA	50 ppm	DCC OEL
Octamethylcyclotetrasiloxane	556-67-2	TWA	10 ppm	DCC OEL
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm	NIOSH REL

DOW CORNING(R) 88 ADDITIVE

Version 1.0 Revision Date: 01/26/2015 MSDS Number: 993926-00001 Date of last issue: -
 Date of first issue: 01/26/2015

			260 mg/m3	
		ST	250 ppm 325 mg/m3	NIOSH REL
		TWA	200 ppm 260 mg/m3	OSHA Z-1

Hazardous components without workplace control parameters

Ingredients	CAS-No.
Triethoxyoctylsilane	2943-75-1
Titanium tetrabutanolate	5593-70-4
Dimethyldimethoxysilane	1112-39-6

Occupational exposure limits of decomposition products

Ingredients	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
Ethanol	64-17-5	TWA	1,000 ppm 1,900 mg/m3	NIOSH REL
		TWA	1,000 ppm 1,900 mg/m3	OSHA Z-1
		STEL	1,000 ppm	ACGIH
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH
		TWA	200 ppm 260 mg/m3	NIOSH REL
		ST	250 ppm 325 mg/m3	NIOSH REL
		TWA	200 ppm 260 mg/m3	OSHA Z-1
Butan-1-ol	71-36-3	TWA	20 ppm	ACGIH
		C	50 ppm 150 mg/m3	NIOSH REL
		TWA	100 ppm 300 mg/m3	OSHA Z-1

Biological occupational exposure limits

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

Engineering measures

- : Processing may form hazardous compounds (see section 10).
- Minimize workplace exposure concentrations.
- Use only in an area equipped with explosion proof exhaust ventilation.
- Use with local exhaust ventilation.

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

Personal protective equipment

Respiratory protection : General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.

Hand protection

Material : Antistatic gloves

Material : Impervious gloves

Material : Flame retardant gloves

Remarks

: Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.

Eye protection

: Wear the following personal protective equipment:
Safety goggles

Skin and body protection

: Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential.
Wear the following personal protective equipment:
Flame retardant antistatic protective clothing.
Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).

Hygiene measures

: Ensure that eye flushing systems and safety showers are located close to the working place.
When using do not eat, drink or smoke.
Wash contaminated clothing before re-use.
These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions.
For further information regarding the use of silicones / organic oils in consumer aerosol applications, please refer to the guidance document regarding the use of these type of materials in consumer aerosol applications that has been developed by the silicone industry (www.SEHSC.com) or contact the Dow Corning customer service group.

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Color	: Straw
Odor	: strong
Odor Threshold	: No data available
pH	: No data available
Melting point/freezing point	: No data available
Initial boiling point and boiling range	: > 65 °C
Flash point	: 10 °C Method: Seta closed cup
Evaporation rate	: No data available
Flammability (solid, gas)	: Not applicable
Upper explosion limit	: No data available
Lower explosion limit	: No data available
Vapor pressure	: No data available
Relative vapor density	: No data available
Relative density	: 0.96
Solubility(ies)	
Water solubility	: No data available
Partition coefficient: n-octanol/water	: No data available
Autoignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity	
Viscosity, kinematic	: 45 cSt
Explosive properties	: Not explosive
Oxidizing properties	: The substance or mixture is not classified as oxidizing.
Molecular weight	: No data available

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

SECTION 10. STABILITY AND REACTIVITY

Reactivity	: Not classified as a reactivity hazard.
Chemical stability	: Stable under normal conditions.
Possibility of hazardous reactions	: Highly flammable liquid and vapor. Vapors may form explosive mixture with air. Use at elevated temperatures may form highly hazardous compounds. Can react with strong oxidizing agents. Hazardous decomposition products will be formed upon contact with water or humid air. Hazardous decomposition products will be formed at elevated temperatures.
Conditions to avoid	: Exposure to moisture. Handling operations that can promote accumulation of static charges. Heat, flames and sparks.
Incompatible materials	: Oxidizing agents Water
Hazardous decomposition products	
Contact with water or humid air	: Ethanol Methanol Butan-1-ol
Thermal decomposition	: Formaldehyde

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity

Not classified based on available information.

Product:

Acute oral toxicity	: Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method
Acute inhalation toxicity	: Acute toxicity estimate: > 40 mg/l Exposure time: 4 h Test atmosphere: vapor Method: Calculation method
Acute dermal toxicity	: Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

Ingredients:**Methyltrimethoxysilane:**

Acute oral toxicity : LD50 (Rat): 12.3 ml/kg
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Information taken from reference works and the literature.

Acute inhalation toxicity : LC50 (Rat): > 42.1 mg/l
Exposure time: 6 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on test data

Acute dermal toxicity : LD50 (Rabbit): > 9,500 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on test data

Triethoxyoctylsilane:

Acute oral toxicity : LD50 (Rat): > 5,110 mg/kg
Assessment: The substance or mixture has no acute oral toxicity

Acute dermal toxicity : LD50 (Rat): 6,730 mg/kg
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: Based on test data

Titanium tetrabutanolate:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg

Acute inhalation toxicity : LC50 (Rat): 11 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Octamethylcyclotetrasiloxane:

Acute oral toxicity : LD50 (Rat): > 4,800 mg/kg
Assessment: The substance or mixture has no acute oral toxicity
Remarks: Based on test data

Acute inhalation toxicity : LC50 (Rat): 2975 ppm
Exposure time: 4 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on test data

Acute dermal toxicity : LD50 (Rabbit): > 2.5 ml/kg
Assessment: The substance or mixture has no acute dermal toxicity

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

Remarks: Based on test data

Methanol:

Acute oral toxicity : Acute toxicity estimate (Humans): 300 mg/kg
Method: Expert judgment

Acute inhalation toxicity : Acute toxicity estimate (Humans): 3 mg/l
Test atmosphere: vapor
Method: Expert judgment

Acute dermal toxicity : Acute toxicity estimate (Humans): 300 mg/kg
Method: Expert judgment

Dimethyldimethoxysilane:

Acute oral toxicity : LD50 (Rat): > 2,000 - 5,000 mg/kg
Remarks: Based on test data

Acute inhalation toxicity : LC50 (Rat): > 4.7 mg/l
Exposure time: 4 h
Test atmosphere: vapor
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: Based on test data

Skin corrosion/irritation

Not classified based on available information.

Ingredients:**Methyltrimethoxysilane:**

Species: Rabbit
Result: No skin irritation
Remarks: Based on test data

Triethoxyoctylsilane:

Species: Rabbit
Result: Skin irritation
Remarks: Based on test data

Titanium tetrabutanolate:

Result: Skin irritation

Octamethylcyclotetrasiloxane:

Species: Rabbit
Result: No skin irritation
Remarks: Based on test data

Methanol:

Species: Rabbit
Result: No skin irritation

Dimethyldimethoxysilane:

Species: Rabbit
Result: No skin irritation
Remarks: Based on data from similar materials

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

Serious eye damage/eye irritation

Causes serious eye irritation.

Ingredients:**Methyltrimethoxysilane:**

Species: Rabbit

Result: No eye irritation

Remarks: Based on test data

Triethoxyoctylsilane:

Species: Rabbit

Result: No eye irritation

Remarks: Based on test data

Titanium tetrabutanolate:

Species: Rabbit

Result: Irreversible effects on the eye

Octamethylcyclotetrasiloxane:

Species: Rabbit

Result: No eye irritation

Remarks: Based on test data

Methanol:

Species: Rabbit

Result: No eye irritation

Dimethyldimethoxysilane:

Species: Rabbit

Result: No eye irritation

Remarks: Based on data from similar materials

Respiratory or skin sensitization

Skin sensitization: May cause an allergic skin reaction.

Respiratory sensitization: Not classified based on available information.

Ingredients:**Methyltrimethoxysilane:**

Assessment: Probability or evidence of low to moderate skin sensitization rate in humans

Test Type: Buehler Test

Species: Guinea pig

Remarks: Causes sensitization.

Based on test data

Titanium tetrabutanolate:

Test Type: Local lymph node assay (LLNA)

Routes of exposure: Skin contact

Species: Mouse

Result: negative

Octamethylcyclotetrasiloxane:

Assessment: Does not cause skin sensitization.

Test Type: Maximization Test (GPMT)

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

Species: Guinea pig
Remarks: Based on test data

Methanol:

Test Type: Maximization Test (GPMT)
Routes of exposure: Skin contact
Species: Guinea pig
Result: negative

Germ cell mutagenicity

Not classified based on available information.

Ingredients:**Methyltrimethoxysilane:**

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on test data

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo
cytogenetic assay)
Species: Mouse
Application Route: Ingestion
Result: negative
Remarks: Based on test data

Germ cell mutagenicity - : Animal testing did not show any mutagenic effects.
Assessment

Triethoxyoctylsilane:

Genotoxicity in vitro : Test Type: Mutagenicity (in vitro mammalian cytogenetic test)
Result: negative
Remarks: Based on test data

Titanium tetrabutanolate:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

Octamethylcyclotetrasiloxane:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Result: negative
Remarks: Based on test data

: Test Type: Mutagenicity (in vitro mammalian cytogenetic test)
Result: negative
Remarks: Based on test data

: Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on test data

: Test Type: In vitro sister chromatid exchange assay in mam-
malian cells
Result: negative
Remarks: Based on test data

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

: Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro)
Result: negative
Remarks: Based on test data

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Rat
Application Route: inhalation (vapor)
Result: negative
Remarks: Based on test data

Test Type: Rodent dominant lethal test (germ cell) (in vivo)
Species: Rat
Application Route: Ingestion
Result: negative
Remarks: Based on test data

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

Methanol:

Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES)
Method: OECD Test Guideline 471
Result: negative

: Test Type: In vitro mammalian cell gene mutation test
Method: OECD Test Guideline 476
Result: negative

Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay)
Species: Mouse
Application Route: Intraperitoneal injection
Result: negative

Dimethyldimethoxysilane:

Genotoxicity in vitro : Test Type: Chromosome aberration test in vitro
Result: negative
Remarks: Based on test data

Carcinogenicity

Not classified based on available information.

Ingredients:**Methanol:**

Species: Mouse
Application Route: inhalation (vapor)
Exposure time: 18 Months
Method: OECD Test Guideline 453
Result: negative

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

human carcinogen by IARC.

OSHA

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Suspected of damaging fertility or the unborn child.

Ingredients:**Methyltrimethoxysilane:**

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female
Application Route: Ingestion
Symptoms: No effects on fertility.
Remarks: Based on test data

Effects on fetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female
Application Route: Ingestion
Symptoms: No effects on fetal development.
Remarks: Based on test data

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

Triethoxyoctylsilane:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female
Application Route: Ingestion
Symptoms: No effects on fertility.
Remarks: Based on test data

Effects on fetal development : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female
Application Route: Ingestion
Symptoms: No effects on fetal development.
Remarks: Based on test data

Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments.

Octamethylcyclotetrasiloxane:

Effects on fertility : Test Type: Two-generation reproduction toxicity study
Species: Rat, male and female
Application Route: inhalation (vapor)
Symptoms: Effects on fertility.

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

Remarks: Based on test data

Effects on fetal development : Test Type: Prenatal development toxicity study (teratogenicity)
Species: Rabbit
Application Route: inhalation (vapor)
Symptoms: No effects on fetal development.
Remarks: Based on test data

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, based on animal experiments.

Methanol:

Effects on fertility : Test Type: Fertility/early embryonic development
Species: Mouse
Application Route: Ingestion
Result: negative

Effects on fetal development : Test Type: Embryo-fetal development
Species: Mouse
Application Route: Ingestion
Method: OECD Test Guideline 414
Result: positive
Remarks: The effects were seen only at maternally toxic doses.

Dimethyldimethoxysilane:

Effects on fertility : Test Type: Combined repeated dose toxicity study with the reproduction/developmental toxicity screening test
Species: Rat, male and female
Application Route: Ingestion
Symptoms: Effects on fertility.
Remarks: Based on test data

Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, based on animal experiments.

STOT-single exposure

Not classified based on available information.

Ingredients:**Titanium tetrabutanolate:**

Assessment: May cause respiratory irritation.

Assessment: May cause drowsiness or dizziness.

Methanol:

Target Organs: Eyes, Central nervous system

Assessment: Causes damage to organs.

STOT-repeated exposure

Not classified based on available information.

Ingredients:**Methyltrimethoxysilane:**

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

Routes of exposure: inhalation (vapor)

Assessment: No significant health effects observed in animals at concentrations of 1 mg/l/6h/d or less.

Routes of exposure: Ingestion

Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Triethoxyoctylsilane:

Routes of exposure: Ingestion

Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Octamethylcyclotetrasiloxane:

Routes of exposure: Ingestion

Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Routes of exposure: inhalation (vapor)

Assessment: No significant health effects observed in animals at concentrations of 1 mg/l/6h/d or less.

Routes of exposure: Skin contact

Assessment: No significant health effects observed in animals at concentrations of 200 mg/kg bw or less.

Dimethyldimethoxysilane:

Routes of exposure: Ingestion

Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less.

Repeated dose toxicity**Ingredients:****Methyltrimethoxysilane:**

Species: Rat

Application Route: inhalation (vapor)

Remarks: Based on test data

Species: Rat

Application Route: Ingestion

Remarks: Based on test data

Triethoxyoctylsilane:

Species: Rat

Application Route: Ingestion

Remarks: Based on test data

Octamethylcyclotetrasiloxane:

Species: Rat

Application Route: Ingestion

Remarks: Based on test data

Species: Rat

Application Route: inhalation (vapor)

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

Remarks: Based on test data

Species: Rabbit

Application Route: Skin contact

Remarks: Based on test data

Methanol:

Species: Rat

NOAEL: 1.06 mg/l

Application Route: inhalation (vapor)

Exposure time: 90 d

Dimethyldimethoxysilane:

Species: Rat

Application Route: Ingestion

Remarks: Based on test data

Aspiration toxicity

Not classified based on available information.

Further information**Ingredients:****Triethoxyoctylsilane:**

Remarks: Findings from a combined repeated-dose toxicity study with reproductive/developmental screening endpoints on n-octyltriethoxysilane have shown neurological effects in rats at high doses (1000 mg/kg). Paralysis and paresis of the limbs, and demyelination of the brain, spinal cord, sciatic and tibial nerves was noted in some animals.

Octamethylcyclotetrasiloxane:

Remarks: Results from a 2 year repeated vapor inhalation exposure study to rats of octamethylcyclotetrasiloxane (D4) indicate effects (benign uterine adenomas) in the uterus of female animals. This finding occurred at the highest exposure dose (700 ppm) only. Studies to date have not demonstrated if these effects occur through pathways that are relevant to humans. Based on the available information on its potential to cause harm to human health, Health Canada, in a 2008 screening assessment, has concluded that octamethylcyclotetrasiloxane is not entering the environment in a quantity or concentration or under conditions that constitute or may constitute a danger in Canada to human life or health (<http://www.ec.gc.ca/ese-ees/default.asp?lang=En&n=2481B508-1>). Repeated exposure in rats to D4 resulted in protoporphyrin accumulation in the liver. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown.

Dimethyldimethoxysilane:

Remarks: This material contains dimethyldimethoxysilane. Repeated exposure in rats to dimethyldimethoxysilane resulted in protoporphyrin accumulation in the liver. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown.

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Ingredients:**Methyltrimethoxysilane:**

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia sp.): > 100 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
- Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 100 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
- Toxicity to bacteria : EC50: > 100 mg/l
Method: OECD Test Guideline 209

Triethoxyoctylsilane:

- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia sp.): > 0.049 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202
Remarks: No toxicity at the limit of solubility.
- Toxicity to algae : ErC50 (Pseudokirchneriella subcapitata (green algae)): > 0.13 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: No toxicity at the limit of solubility.

Octamethylcyclotetrasiloxane:

- Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 0.022 mg/l
Exposure time: 96 h
Remarks: No toxicity at the limit of solubility.
- Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia sp.): > 0.015 mg/l
Exposure time: 48 h
Remarks: No toxicity at the limit of solubility.
- Toxicity to algae : EC50: > 0.022 mg/l
Exposure time: 96 h
Remarks: No toxicity at the limit of solubility.
- NOEC: 0.022 mg/l
Exposure time: 96 h
Remarks: No toxicity at the limit of solubility.
- Toxicity to fish (Chronic toxicity) : NOEC (Oncorhynchus mykiss (rainbow trout)): >= 0.0044 mg/l
Remarks: No toxicity at the limit of solubility.

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : NOEC (Daphnia magna (Water flea)): > 0.0079 mg/l
Exposure time: 21 d
Remarks: No toxicity at the limit of solubility.

Toxicity to bacteria : IC50: > 10,000 mg/l
Method: ISO 8192

Ecotoxicology Assessment
Chronic aquatic toxicity : May cause long lasting harmful effects to aquatic life.

Methanol:

Toxicity to fish : LC50 (Lepomis macrochirus (Bluegill sunfish)): 15,400 mg/l
Exposure time: 96 h

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 10,000 mg/l
Exposure time: 48 h

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 22,000 mg/l
Exposure time: 96 h
Method: OPPTS 850.5400

Toxicity to fish (Chronic toxicity) : NOEC (Oryzias latipes (Orange-red killifish)): 15,800 mg/l
Exposure time: 200 h

Toxicity to bacteria : EC50: 20,000 mg/l
Exposure time: 15 h

Dimethyldimethoxysilane:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): > 126 mg/l
Exposure time: 96 h
Method: OECD Test Guideline 203
Remarks: Based on data from similar materials

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 119 mg/l
Exposure time: 48 h
Method: OECD Test Guideline 202

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): > 118 mg/l
Exposure time: 72 h
Method: OECD Test Guideline 201
Remarks: Based on data from similar materials

Toxicity to bacteria : EC50: > 100 mg/l
Exposure time: 3 h
Method: OECD Test Guideline 209
Remarks: Based on data from similar materials

Persistence and degradability**Ingredients:****Methyltrimethoxysilane:**

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

Stability in water : Degradation half life: 2.2 h pH: 7

Triethoxyoctylsilane:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 31.5 %
Method: OECD Test Guideline 301D
Remarks: Based on test data

Octamethylcyclotetrasiloxane:

Biodegradability : Result: Not readily biodegradable.
Biodegradation: 3.7 %
Exposure time: 28 d
Method: OECD Test Guideline 310

Stability in water : Degradation half life: 69.3 - 144 h (24.6 °C) pH: 7
Method: OECD Test Guideline 111

Methanol:

Biodegradability : Result: Readily biodegradable.
Biodegradation: 95 %
Exposure time: 20 d

Dimethyldimethoxysilane:

Stability in water : Degradation half life: < 0.6 h pH: 7

Bioaccumulative potential**Ingredients:****Methyltrimethoxysilane:**

Partition coefficient: n-octanol/water : log Pow: -2.36

Triethoxyoctylsilane:

Partition coefficient: n-octanol/water : log Pow: 6.41
Method: OECD Test Guideline 117

Titanium tetrabutanolate:

Partition coefficient: n-octanol/water : log Pow: 0.88

Octamethylcyclotetrasiloxane:

Partition coefficient: n-octanol/water : log Pow: 6.48 (25.1 °C)

Methanol:

Bioaccumulation : Species: Leuciscus idus (Golden orfe)
Bioconcentration factor (BCF): < 10

Partition coefficient: n-octanol/water : log Pow: -0.77

Mobility in soil

No data available

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

Other adverse effects**Ingredients:****Octamethylcyclotetrasiloxane:**

Results of PBT and vPvB assessment : Remarks: Octamethylcyclotetrasiloxane (D4) meets the current REACH Annex XIII criteria for PBT and vPvB. In Canada, D4 has been assessed and deemed to meet the PiT criteria. However, D4 does not behave similarly to known PBT/vPvB substances. The weight of scientific evidence from field studies shows that D4 is not biomagnifying in aquatic and terrestrial food webs. D4 in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any D4 in air that does not degrade by reaction with hydroxyl radicals is not expected to deposit from the air to water, to land, or to living organisms.

SECTION 13. DISPOSAL CONSIDERATIONS**Disposal methods**

Resource Conservation and Recovery Act (RCRA) : When a decision is made to discard this material as supplied, it is classified as a RCRA hazardous waste.

Waste Code : D001: Ignitability

Waste from residues : Dispose of in accordance with local regulations.

Contaminated packaging : Dispose of as unused product.
Empty containers should be taken to an approved waste handling site for recycling or disposal.
Do not burn, or use a cutting torch on, the empty drum.

SECTION 14. TRANSPORT INFORMATION**International Regulation****UNRTDG**

UN number : UN 1993

Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(Methoxysilane, Organo Titanate)

Class : 3

Packing group : II

Labels : 3

IATA-DGR

UN/ID No. : UN 1993

Proper shipping name : Flammable liquid, n.o.s.
(Methoxysilane, Organo Titanate)

Class : 3

Packing group : II

Labels : Flammable Liquids

DOW CORNING(R) 88 ADDITIVE

Version 1.0 Revision Date: 01/26/2015 MSDS Number: 993926-00001 Date of last issue: -
Date of first issue: 01/26/2015

Packing instruction (cargo aircraft) : 364

Packing instruction (passenger aircraft) : 353

IMDG-Code

UN number : UN 1993

Proper shipping name : FLAMMABLE LIQUID, N.O.S.
(Methoxysilane, Organo Titanate)

Class : 3

Packing group : II

Labels : 3

EmS Code : F-E, S-E

Marine pollutant : no

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

Not applicable for product as supplied.

Domestic regulation**49 CFR**

UN/ID/NA number : UN 1993

Proper shipping name : FLAMMABLE LIQUIDS, N.O.S.
(Methoxysilane, Organo Titanate)

Class : 3

Packing group : II

Labels : FLAMMABLE LIQUID

ERG Code : 128

Marine pollutant : no

SECTION 15. REGULATORY INFORMATION**EPCRA - Emergency Planning and Community Right-to-Know****CERCLA Reportable Quantity**

Ingredients	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Methanol	67-56-1	5000	*
Butan-1-ol	71-36-3	5000	*

*: Calculated RQ exceeds reasonably attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

SARA 313 : This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

US State Regulations**Pennsylvania Right To Know**

Dimethyl siloxane, hydroxy-terminated	70131-67-8	70 - 90 %
Methyltrimethoxysilane	1185-55-3	5 - 10 %
Triethoxyoctylsilane	2943-75-1	5 - 10 %
Methanol	67-56-1	0.1 - 1 %
Butan-1-ol	71-36-3	0 - 0.1 %

New Jersey Right To Know

Dimethyl siloxane, hydroxy-terminated	70131-67-8	70 - 90 %
Methyltrimethoxysilane	1185-55-3	5 - 10 %
Triethoxyoctylsilane	2943-75-1	5 - 10 %
Titanium tetrabutanolate	5593-70-4	1 - 5 %
Octamethylcyclotetrasiloxane	556-67-2	1 - 5 %
Methanol	67-56-1	0.1 - 1 %

California Prop 65 WARNING: This product contains a chemical known in the State of California to cause birth defects or other reproductive harm.

Methanol	67-56-1
----------	---------

The ingredients of this product are reported in the following inventories:

ENCS/ISHL	: All components are listed on ENCS/ISHL or exempted from inventory listing.
KECI	: All ingredients listed, exempt or notified.
AICS	: All ingredients listed or exempt.
DSL	: All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL).
IECSC	: All ingredients listed or exempt.
PICCS	: All ingredients listed or exempt.
REACH	: All ingredients (pre-)registered or exempt.
TSCA	: All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.
NZIoC	: All ingredients listed or exempt.

Inventories

DOW CORNING(R) 88 ADDITIVE

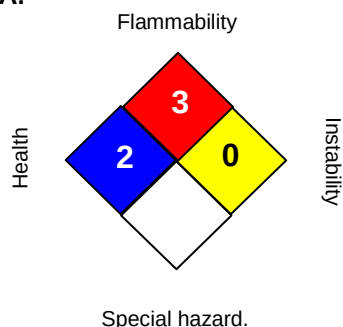
Version 1. 0 Revision Date: 01/26/2015 MSDS Number: 993926-00001 Date of last issue: -
Date of first issue: 01/26/2015

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), NECSI (Taiwan), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	2*
FLAMMABILITY	3
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

Full text of other abbreviations

ACGIH	: USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	: ACGIH - Biological Exposure Indices (BEI)
DCC OEL	: Dow Corning Guide
NIOSH REL	: USA. NIOSH Recommended Exposure Limits
OSHA Z-1	: USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
ACGIH / TWA	: 8-hour, time-weighted average
ACGIH / STEL	: Short-term exposure limit
DCC OEL / TWA	: Time weighted average
NIOSH REL / TWA	: Time-weighted average concentration for up to a 10-hour workday during a 40-hour workweek
NIOSH REL / ST	: STEL - 15-minute TWA exposure that should not be exceeded at any time during a workday
NIOSH REL / C	: Ceiling value not be exceeded at any time.
OSHA Z-1 / TWA	: 8-hour time weighted average

Sources of key data used to compile the Material Safety Data Sheet : Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, <http://echa.europa.eu/>

Revision Date : 01/26/2015

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 is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations

DOW CORNING(R) 88 ADDITIVE

Version	Revision Date:	MSDS Number:	Date of last issue: -
1. 0	01/26/2015	993926-00001	Date of first issue: 01/26/2015

in the specific context of their intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

US / Z8