SAFETY DATA SHEET
DOW SILICONES CORPORATION

Product name: DOWSIL™ 92-009 Dispersion Coating

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DOW SILICONES CORPORATION encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

1. IDENTIFICATION

Product name: DOWSIL™ 92-009 Dispersion Coating

Recommended use of the chemical and restrictions on use
Identified uses: Anti-set off and adhesive agents Coatings

COMPANY IDENTIFICATION
DOW SILICONES CORPORATION
2200 WEST SALZBURG ROAD
MIDLAND MI 48686-0994
UNITED STATES

Customer Information Number: 800-258-2436
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 1 800 424 9300
Local Emergency Contact: 800-424-9300

2. HAZARDS IDENTIFICATION

Hazard classification
GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)
Flammable liquids - Category 2
Skin irritation - Category 2
Serious eye damage - Category 1
Skin sensitisation - Category 1
Carcinogenicity - Category 1B
Reproductive toxicity - Category 2
Specific target organ toxicity - single exposure - Category 1 - Inhalation
Specific target organ toxicity - single exposure - Category 3
Specific target organ toxicity - repeated exposure - Category 2

Label elements
Hazard pictograms

Signal word: **DANGER!**

Hazards
Highly flammable liquid and vapour.
Causes skin irritation.
May cause an allergic skin reaction.
Causes serious eye damage.
May cause drowsiness or dizziness.
May cause cancer.
Suspected of damaging fertility or the unborn child.
Causes damage to organs (Upper respiratory tract) if inhaled.
May cause damage to organs (Blood) through prolonged or repeated exposure.

Precautionary statements

Prevention
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
Keep container tightly closed.
Ground/bond container and receiving equipment.
Use explosion-proof electrical, ventilating or lighting equipment.
Use only non-sparking tools.
Take precautionary measures against static discharge.
Do not breathe mist or vapours.
Do not breathe spray.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing must not be allowed out of the workplace.
Wear protective gloves, protective clothing, eye protection and/or face protection.

Response
IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER and/or doctor.
IF exposed: Call a POISON CENTER or doctor/ physician.
If skin irritation or rash occurs: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Storage
Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.

Store locked up.

Disposal
Dispose of contents and/or container to an approved waste disposal plant.

Other hazards
Static-accumulating flammable liquid.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Silicone in solvent
This product is a mixture.

Component	CASRN	Concentration
Distillates, petroleum, light distillate hydrotreating process, low-boiling	68410-97-9	>= 53.0 - <= 71.0 %
Hydrophobic amorphous fumed silica	68909-20-6	>= 6.0 - <= 10.0 %
Vinyltri (methylethylketoxime) silane	2224-33-1	>= 2.6 - <= 3.5 %
Methyl Ethyl Ketoxime	96-29-7	<= 3.0 %
Octamethyl Cyclotetrasiloxane	556-67-2	>= 0.9 - <= 1.2 %
Decamethylcyclopentasiloxane	541-02-6	>= 0.77 - <= 1.04 %

4. FIRST AID MEASURES

Description of first aid measures
General advice:
First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation: Move person to fresh air and keep comfortable for breathing; consult a physician.

Skin contact: Remove material from skin immediately by washing with soap and plenty of water. Remove contaminated clothing and shoes while washing. Seek medical attention if irritation or rash occurs. Wash clothing before reuse. Discard items which cannot be decontaminated, including leather articles such as shoes, belts and watchbands. Suitable emergency safety shower facility should be available in work area.

Eye contact: Wash immediately and continuously with flowing water for at least 30 minutes. Remove contact lenses after the first 5 minutes and continue washing. Obtain prompt medical consultation,

preferably from an ophthalmologist. Suitable emergency eye wash facility should be immediately available.

Ingestion: Rinse mouth with water. No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed:
Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: Chemical eye burns may require extended irrigation. Obtain prompt consultation, preferably from an ophthalmologist. If burn is present, treat as any thermal burn, after decontamination. No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media: Alcohol-resistant foam. Dry chemical. Dry sand.

Unsuitable extinguishing media: High volume water jet. Do not use direct water stream..

Special hazards arising from the substance or mixture

Hazardous combustion products: Silicon oxides. Carbon oxides. Nitrogen oxides (NOx).

Unusual Fire and Explosion Hazards: Flash back possible over considerable distance.. Exposure to combustion products may be a hazard to health.. Flammable concentrations of vapor can accumulate at temperatures above flash point; see Section 9.. Flammable mixtures may exist within the vapor space of containers at room temperature.. Closed containers may rupture via pressure build-up when exposed to fire or extreme heat.. Fire burns more vigorously than would be expected.. Vapours may form explosive mixtures with air..

Advice for firefighters

Fire Fighting Procedures: Use water spray to cool unopened containers.. Evacuate area.. 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.. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed.. Do not use a solid water stream as it may scatter and spread fire..
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Remove undamaged containers from fire area if it is safe to do so.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.. Use personal protective equipment..

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Remove all sources of ignition. Ventilate the area. Use personal protective equipment. Eliminate all sources of ignition in vicinity of spill or released vapor to avoid fire or explosion. Ground and bond all containers and handling equipment. Vapor explosion hazard. Keep out of sewers. Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions: Do not release the product to the aquatic environment above defined regulatory levels 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/vapours/mists with a water spray jet. Clean up remaining materials from spill with suitable absorbant. 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. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, store recovered material in appropriate container. Dispose of saturated absorbent or cleaning materials appropriately, since spontaneous heating may occur.
See sections: 7, 8, 11, 12 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling: Do not get on skin or clothing. Do not breathe vapours or spray mist. Do not swallow. Do not get in eyes. Keep container tightly closed. 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. Non-sparking tools should be used. Handle in accordance with good industrial hygiene and safety practice.
CONTAINERS MAY BE HAZARDOUS WHEN EMPTY. Since emptied containers retain product residue follow all (M)SDS and label warnings even after container is emptied.
Use with local exhaust ventilation. Use only in an area equipped with explosion proof exhaust ventilation. 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 electricity, it isnecessary to provide an inert gas purge before beginning transfer operations. Restrict flow velocity in order to reduce the accumulation of static electricity. Ground and bond container and receiving equipment.

Conditions for safe storage: Keep in properly labelled containers. Store locked up. 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.

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.
Unsuitable materials for containers**:** Do not store in or use iron or steel containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable.

Component	Regulation	Type of listing	Value
Distillates, petroleum, light distillate hydrotreating process, low-boiling	OSHA Z-1	TWA	2,000 mg/m3 500 ppm
Hydrophobic amorphous fumed silica	Dow IHG	TWA Respirable fraction	0.1 mg/m3
Methyl Ethyl Ketoxime	Dow IHG	TWA	0.15 ppm
	Further information: Skin Sensitizer		
	US WEEL	TWA	10 ppm
	Further information: DSEN: Dermal Sensitization Notation		
Octamethyl Cyclotetrasiloxane	US WEEL	TWA	10 ppm
Decamethylcyclopentasiloxane	US WEEL	TWA	10 ppm

The following substance(s), which have Occupational Exposure Limit(s) (OEL), may be formed during handling or processing:, Methyl ethyl ketoxime

Exposure controls

Engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use chemical goggles.

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Polyvinyl alcohol ("PVA"). Examples of acceptable glove barrier materials include: Butyl rubber. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection: Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be needed; however, if material is heated or sprayed, use an approved air-purifying respirator.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	liquid
Color	colourless
Odor	solvent-like
Odor Threshold	No data available
pH	No data available
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	> 150 °C (> 302 °F)
Flash point	**Pensky-Martens closed cup** 18.8 °C (65.8 °F)
Evaporation Rate (Butyl Acetate = 1)	No data available
Flammability (solid, gas)	Not applicable
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor Pressure	No data available
Relative Vapor Density (air = 1)	No data available
Relative Density (water = 1)	0.8
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Kinematic Viscosity	6500 cSt at 25 °C (77 °F)
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Molecular weight	No data available
Particle size	Not applicable

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Can react with strong oxidizing agents. When heated to temperatures above 150 °C (300 °F) in the presence of air, trace quantities of formaldehyde may be released. Adequate ventilation is required. Vapours may form explosive mixture with air. Highly flammable liquid and vapour.

Conditions to avoid: Do not expose to temperatures above 212 °F/100 °C. Avoid static discharge. Heat, flames and sparks. Exposure to moisture

Incompatible materials: Avoid contact with oxidizing materials.

Hazardous decomposition products:
Decomposition products can include and are not limited to: Formaldehyde. Methyl ethyl ketone. Methyl Ethyl Ketoxime.

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Information on likely routes of exposure
Inhalation, Eye contact, Skin contact, Ingestion.

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

Acute oral toxicity

Information for the Product:

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: Single dose oral LD50 has not been determined.

Based on information for component(s):
LD50, Rat, > 5,000 mg/kg Estimated.

Information for components:

Distillates, petroleum, light distillate hydrotreating process, low-boiling
For similar material(s): LD50, Rat, male and female, > 5,000 mg/kg OECD 401 or equivalent No deaths occurred at this concentration.

Hydrophobic amorphous fumed silica
Single dose oral LD50 has not been determined.

Based on information for a similar material: LC50, Rat, > 5,000 mg/kg

Vinyltri (methylethylketoxime) silane
LD50, Rat, > 2,000 mg/kg

Methyl Ethyl Ketoxime
LD50, 100 mg/kg

Octamethyl Cyclotetrasiloxane
LD50, Rat, male, > 4,800 mg/kg No deaths occurred at this concentration.

Decamethylcyclopentasiloxane
LD50, Rat, male and female, > 24,134 mg/kg

Acute dermal toxicity

Information for the Product:

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: The dermal LD50 has not been determined.

Based on information for component(s):
LD50, Rabbit, > 2,000 mg/kg Estimated.

Information for components:

Distillates, petroleum, light distillate hydrotreating process, low-boiling
For similar material(s): LD50, Rabbit, male and female, > 2,000 mg/kg OECD 402 or equivalent No deaths occurred at this concentration.

Hydrophobic amorphous fumed silica
For similar material(s): LD50, Rabbit, > 2,000 mg/kg No deaths occurred at this concentration.

The dermal LD50 has not been determined.

Vinyltri (methylethylketoxime) silane
LD50, Rat, > 2,000 mg/kg

Methyl Ethyl Ketoxime
LD50, Rabbit, male and female, 1,100 mg/kg OECD Test Guideline 402

Octamethyl Cyclotetrasiloxane
LD50, Rat, male and female, > 2,400 mg/kg No deaths occurred at this concentration.

Decamethylcyclopentasiloxane
LD50, Rabbit, male and female, > 2,000 mg/kg No deaths occurred at this concentration.

Acute inhalation toxicity

Information for the Product:

Brief exposure (minutes) is not likely to cause adverse effects. Vapor from heated material or mist may cause respiratory irritation. Observations in animals include: Anesthetic or narcotic effects. Excessive exposure may cause: lung effects Central nervous system depression

As product: The LC50 has not been determined.

Information for components:

Distillates, petroleum, light distillate hydrotreating process, low-boiling
Brief exposure (minutes) is not likely to cause adverse effects. Excessive exposure may cause: lung effects Central nervous system depression

For similar material(s): LC50, Rat, 4 Hour, vapour, > 5.61 mg/l

Hydrophobic amorphous fumed silica
The LC50 has not been determined.

Vinyltri (methylethylketoxime) silane
The LC50 has not been determined.

Methyl Ethyl Ketoxime
LC50, Rat, male and female, 4 Hour, dust/mist, > 4.83 mg/l OECD Test Guideline 403

Octamethyl Cyclotetrasiloxane
LC50, Rat, male and female, 4 Hour, dust/mist, 36 mg/l OECD Test Guideline 403

Decamethylcyclopentasiloxane
LC50, Rat, male and female, 4 Hour, dust/mist, 8.67 mg/l

Skin corrosion/irritation

Information for the Product:

Based on information for component(s):
Brief contact may cause moderate skin irritation with local redness.
May cause more severe response if skin is abraded (scratched or cut).

Information for components:

Distillates, petroleum, light distillate hydrotreating process, low-boiling
For similar material(s):
Brief contact may cause severe skin irritation with pain and local redness.

Hydrophobic amorphous fumed silica
For similar material(s):
Prolonged contact is essentially nonirritating to skin.

Vinyltri (methylethylketoxime) silane
Brief contact may cause slight skin irritation with local redness.

Methyl Ethyl Ketoxime
Brief contact may cause skin irritation with local redness.
Prolonged contact may cause skin irritation with local redness.
May cause more severe response if skin is abraded (scratched or cut).

Octamethyl Cyclotetrasiloxane
Brief contact is essentially nonirritating to skin.

Decamethylcyclopentasiloxane
Prolonged contact is essentially nonirritating to skin.

Serious eye damage/eye irritation

Information for the Product:

Based on information for component(s):
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Information for components:

Distillates, petroleum, light distillate hydrotreating process, low-boiling
For similar material(s):
May cause slight temporary eye irritation.
Corneal injury is unlikely.

Hydrophobic amorphous fumed silica
For similar material(s):
May cause irritation or corneal injury due to mechanical action.

Vinyltri (methylethylketoxime) silane
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Methyl Ethyl Ketoxime
May cause severe irritation with corneal injury which may result in permanent impairment of vision, even blindness. Chemical burns may occur.

Octamethyl Cyclotetrasiloxane
Essentially nonirritating to eyes.

Decamethylcyclopentasiloxane
Essentially nonirritating to eyes.

Sensitization

Information for the Product:

For skin sensitization:
Contains component(s) which have caused allergic skin sensitization in guinea pigs.

For respiratory sensitization:
No relevant data found.

Information for components:

Distillates, petroleum, light distillate hydrotreating process, low-boiling
For skin sensitization:
For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Hydrophobic amorphous fumed silica
For similar material(s):
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Vinyltri (methylethylketoxime) silane
Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Methyl Ethyl Ketoxime
Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Octamethyl Cyclotetrasiloxane
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Decamethylcyclopentasiloxane
Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Information for the Product:

Contains component(s) which are classified as specific target organ toxicant, single exposure, category 1.

Information for components:

Distillates, petroleum, light distillate hydrotreating process, low-boiling
May cause drowsiness or dizziness.
Route of Exposure: Inhalation
Target Organs: Central nervous system

Hydrophobic amorphous fumed silica
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Vinyltri (methylethylketoxime) silane
Available data are inadequate to determine single exposure specific target organ toxicity.

Methyl Ethyl Ketoxime
May cause drowsiness or dizziness.
Route of Exposure: Inhalation

Target Organs: Central nervous system
Causes damage to organs.
Route of Exposure: Inhalation
Target Organs: Upper respiratory tract

Octamethyl Cyclotetrasiloxane
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Decamethylcyclopentasiloxane
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Aspiration Hazard

Information for the Product:

Based on physical properties, not likely to be an aspiration hazard.

Information for components:

Distillates, petroleum, light distillate hydrotreating process, low-boiling
May be fatal if swallowed and enters airways.

Hydrophobic amorphous fumed silica
Based on physical properties, not likely to be an aspiration hazard.

Vinyltri (methylethylketoxime) silane
Based on available information, aspiration hazard could not be determined.

Methyl Ethyl Ketoxime
Based on available information, aspiration hazard could not be determined.

Octamethyl Cyclotetrasiloxane
May be harmful if swallowed and enters airways.

Decamethylcyclopentasiloxane
Based on physical properties, not likely to be an aspiration hazard.

Chronic toxicity (represents longer term exposures with repeated dose resulting in chronic/delayed effects - no immediate effects known unless otherwise noted)

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Information for the Product:

Contains component(s) which have been reported to cause effects on the following organs in animals:
Kidney.
Liver.
Blood.
Eye.
Female reproductive organs.
Respiratory tract.
Observations in animals include:
May cause central nervous system depression.

Information for components:

Distillates, petroleum, light distillate hydrotreating process, low-boiling
For similar material(s):
Kidney effects have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans.

Hydrophobic amorphous fumed silica
No relevant data found.

Vinyltri (methylethylketoxime) silane
In animals, effects have been reported on the following organs:
Blood.

Methyl Ethyl Ketoxime
In animals, effects have been reported on the following organs:
Blood.
Eye.
Respiratory tract.
Observations in animals include:
May cause central nervous system depression.

Octamethyl Cyclotetrasiloxane
In animals, effects have been reported on the following organs:
Kidney.
Liver.
Respiratory tract.
Female reproductive organs.

Decamethylcyclopentasiloxane
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Carcinogenicity

Information for the Product:

Contains component(s) which have caused cancer in laboratory animals. During use of the material, small amounts of methylethylketoxime (MEKO) will be released. Rodents exposed to chronic MEKO inhalation throughout their lifetimes showed significant increases in liver tumour rates. Results from a 2 year repeated vapour 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. 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. Results from a 2 year repeated vapour inhalation exposure study to rats of decamethylcyclopentasiloxane (D5) indicate effects (uterine endometrial tumors) in female animals. This finding occurred at the highest exposure dose (160 ppm) only. Studies to date have not demonstrated if this effect occurs through a pathway that is relevant to humans. Kidney effects and/or tumors have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans.

Information for components:

Distillates, petroleum, light distillate hydrotreating process, low-boiling
Kidney effects and/or tumors have been observed in male rats. These effects are believed to be species specific and unlikely to occur in humans.

Hydrophobic amorphous fumed silica
No relevant data found.

Vinyltri (methylethylketoxime) silane
No relevant data found.

Methyl Ethyl Ketoxime
Has caused cancer in laboratory animals.

Octamethyl Cyclotetrasiloxane
Results from a 2 year repeated vapour 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. 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.

Decamethylcyclopentasiloxane
Results from a 2 year repeated vapour inhalation exposure study to rats of decamethylcyclopentasiloxane (D5) indicate effects (uterine endometrial tumors) in female animals. This finding occurred at the highest exposure dose (160 ppm) only. Studies to date have not demonstrated if this effect occurs through a pathway that is relevant to humans.

Carcinogenicity

Component	**List**	**Classification**
Distillates, petroleum, light distillate hydrotreating process, low-boiling	IARC	Group 2B: Possibly carcinogenic to humans

Teratogenicity

Information for the Product:

Contains component(s) which did not cause birth defects or any other fetal effects in lab animals.

Information for components:

Distillates, petroleum, light distillate hydrotreating process, low-boiling
For similar material(s): Did not cause birth defects or any other fetal effects in laboratory animals.

Hydrophobic amorphous fumed silica
For similar material(s): Did not cause birth defects or any other fetal effects in laboratory animals.

Vinyltri (methylethylketoxime) silane

No relevant data found.

Methyl Ethyl Ketoxime
Did not cause birth defects or any other fetal effects in laboratory animals.

Octamethyl Cyclotetrasiloxane
Did not cause birth defects or any other fetal effects in laboratory animals.

Decamethylcyclopentasiloxane
Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity

Information for the Product:

In animal studies on component(s), effects on reproduction were seen only at doses that produced significant toxicity to the parent animals. Contains component(s) which have interfered with fertility in animal studies.

Information for components:

Distillates, petroleum, light distillate hydrotreating process, low-boiling
For similar material(s): In animal studies, did not interfere with reproduction.

Hydrophobic amorphous fumed silica
For similar material(s): In animal studies, did not interfere with reproduction.

Vinyltri (methylethylketoxime) silane
No relevant data found.

Methyl Ethyl Ketoxime
In animal studies, did not interfere with reproduction.

Octamethyl Cyclotetrasiloxane
In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals. In animal studies, has been shown to interfere with fertility.

Decamethylcyclopentasiloxane
In animal studies, did not interfere with reproduction.

Mutagenicity

Information for the Product:

Contains component(s) which were negative in some in vitro genetic toxicity studies and positive in others. Genetic toxicity studies in animals were negative for component(s) tested.

Information for components:

Distillates, petroleum, light distillate hydrotreating process, low-boiling
For similar material(s): In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Hydrophobic amorphous fumed silica
For similar material(s): In vitro genetic toxicity studies were negative.

Vinyltri (methylethylketoxime) silane
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Methyl Ethyl Ketoxime
In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

Octamethyl Cyclotetrasiloxane
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Decamethylcyclopentasiloxane
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Distillates, petroleum, light distillate hydrotreating process, low-boiling

Acute toxicity to fish
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).
LL50, Oncorhynchus mykiss (rainbow trout), semi-static test, 96 Hour, 10 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EL50, Daphnia magna (Water flea), static test, 48 Hour, 4.5 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
For similar material(s):
EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate, 3.1 mg/l, OECD Test Guideline 201
For similar material(s):
NOELR, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate, 0.5 mg/l, OECD Test Guideline 201

Chronic toxicity to fish
For similar material(s):
NOELR, Pimephales promelas (fathead minnow), semi-static test, 14 d, mortality, 2.6 mg/l

Chronic toxicity to aquatic invertebrates
Based on data from similar materials
NOELR, Daphnia magna (Water flea), semi-static test, 21 d, number of offspring, 2.6 mg/l

Hydrophobic amorphous fumed silica

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Danio rerio (zebra fish), 96 Hour, > 1,000 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants
ErC50, Scenedesmus quadricauda (Green algae), 72 Hour, > 10,000 mg/l, OECD Test Guideline 201

Toxicity to bacteria
EC50, > 1,000 mg/l, OECD Test Guideline 209

Vinyltri (methylethylketoxime) silane

Acute toxicity to fish
Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 120 mg/l, OECD Test Guideline 203
LC50, Oryzias latipes (Orange-red killifish), 96 Hour, > 100 mg/l, OECD Test Guideline 203

Methyl Ethyl Ketoxime

Acute toxicity to fish
Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).
LC50, Lepomis macrochirus (Bluegill sunfish), static test, 96 Hour, 48 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, 201 mg/l, Method Not Specified.

Acute toxicity to algae/aquatic plants
EC50, Scenedesmus capricornutum (fresh water algae), static test, 72 Hour, Growth rate, 11.8 mg/l, OECD Test Guideline 201 or Equivalent
NOEC, Scenedesmus capricornutum (fresh water algae), 72 Hour, 2.56 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
EC50, Bacteria, 17 Hour, 281 mg/l

Chronic toxicity to fish
NOEC, Oryzias latipes (Orange-red killifish), 14 d, survival, 50 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), 21 d, number of offspring, > 100 mg/l

Octamethyl Cyclotetrasiloxane

Acute toxicity to fish
Not expected to be acutely toxic to aquatic organisms.
No toxicity at the limit of solubility
LC50, Oncorhynchus mykiss (rainbow trout), flow-through, 96 Hour, > 0.022 mg/l
No toxicity at the limit of solubility
LC50, Cyprinodon variegatus (sheepshead minnow), flow-through, 14 d, > 0.0063 mg/l

Acute toxicity to aquatic invertebrates
No toxicity at the limit of solubility
EC50, Mysidopsis bahia (opossum shrimp), flow-through test, 96 Hour, > 0.0091 mg/l
No toxicity at the limit of solubility
EC50, Daphnia magna (Water flea), flow-through test, 48 Hour, > 0.015 mg/l

Acute toxicity to algae/aquatic plants
No toxicity at the limit of solubility
ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate, > 0.022 mg/l
No toxicity at the limit of solubility
EC10, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate, >= 0.022 mg/l

Chronic toxicity to fish
No toxicity at the limit of solubility
NOEC, Oncorhynchus mykiss (rainbow trout), 93 d, growth, >= 0.0044 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), 21 d, survival, 0.0079 mg/l

Decamethylcyclopentasiloxane

Acute toxicity to fish
Not expected to be acutely toxic to aquatic organisms.
No toxicity at the limit of solubility
LC50, Oncorhynchus mykiss (rainbow trout), 96 Hour, > 16 µg/l, OECD Test Guideline 204 or Equivalent

Acute toxicity to aquatic invertebrates
No toxicity at the limit of solubility
EC50, Daphnia magna, 48 Hour, > 2.9 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
No toxicity at the limit of solubility
ErC50, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate, > 0.012 mg/l
No toxicity at the limit of solubility
NOEC, Pseudokirchneriella subcapitata (green algae), 96 Hour, Growth rate, 0.012 mg/l

Chronic toxicity to fish
No toxicity at the limit of solubility
LC50, Oncorhynchus mykiss (rainbow trout), 14 d, > 16 mg/l
No toxicity at the limit of solubility
NOEC, Oncorhynchus mykiss (rainbow trout), 45 d, >= 0.017 mg/l
No toxicity at the limit of solubility
NOEC, Oncorhynchus mykiss (rainbow trout), 90 d, >= 0.014 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna, 21 d, 0.015 mg/l

Toxicity to soil-dwelling organisms
This product does not have any known adverse effect on the soil organisms tested.
NOEC, Eisenia fetida (earthworms), >= 76 mg/kg

Persistence and degradability

Distillates, petroleum, light distillate hydrotreating process, low-boiling

Biodegradability: No relevant data found.

Hydrophobic amorphous fumed silica

Biodegradability: Biodegradation is not applicable.

Vinyltri (methylethylketoxime) silane

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Fail
Biodegradation: 0 %
Exposure time: 28 d
Method: OECD Test Guideline 301A

Stability in Water (1/2-life)
Hydrolysis, DT50, < 1 min, Half-life Temperature 2 °C, OECD Test Guideline 111

Methyl Ethyl Ketoxime

Biodegradability: Based on stringent OECD test guidelines, this material cannot be considered as readily biodegradable; however, these results do not necessarily mean that the material is not biodegradable under environmental conditions. Material has inherent, primary biodegradability according to OECD test (s) guidelines (reaches > 20% biodegradation in OECD test(s).
10-day Window: Not applicable
Biodegradation: 70 %
Exposure time: 14 d
Method: OECD Test Guideline 302B or Equivalent

Theoretical Oxygen Demand: 2.57 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitization: OH radicals
Atmospheric half-life: 7.211 d
Method: Estimated.

Octamethyl Cyclotetrasiloxane

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 3.7 %
Exposure time: 28 d
Method: OECD Test Guideline 310

Stability in Water (1/2-life)
Hydrolysis, DT50, 3.9 d, pH 7, Half-life Temperature 25 °C, OECD Test Guideline 111
Hydrolysis, DT50, 16.7 d, pH 7, Half-life Temperature 12 °C, OECD Test Guideline 111
Hydrolysis, DT50, 0.075 d, pH 4, Half-life Temperature 25 °C, OECD Test Guideline 111

Photodegradation
Atmospheric half-life: 16 d
Method: Estimated.

Decamethylcyclopentasiloxane

Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 0.14 %
Exposure time: 28 d
Method: OECD Test Guideline 310

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitization: OH radicals
Atmospheric half-life: 7.15 d
Method: Estimated.

Bioaccumulative potential

Distillates, petroleum, light distillate hydrotreating process, low-boiling
Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

Hydrophobic amorphous fumed silica
Bioaccumulation: No relevant data found.

Vinyltri (methylethylketoxime) silane
Bioaccumulation: No relevant data found.

Methyl Ethyl Ketoxime
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.63 Measured
Bioconcentration factor (BCF): <= 5.8 Cyprinus carpio (Carp) 42 d Measured

Octamethyl Cyclotetrasiloxane
Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).
Partition coefficient: n-octanol/water(log Pow): 6.49 Measured
Bioconcentration factor (BCF): 12,400 Pimephales promelas (fathead minnow) Measured

Decamethylcyclopentasiloxane
Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).
Partition coefficient: n-octanol/water(log Pow): 5.2 Measured
Bioconcentration factor (BCF): 2,010 Fish Estimated.

Mobility in soil

Distillates, petroleum, light distillate hydrotreating process, low-boiling
No relevant data found.

Hydrophobic amorphous fumed silica
No relevant data found.

Vinyltri (methylethylketoxime) silane
No relevant data found.

Methyl Ethyl Ketoxime

Partition coefficient (Koc): 130 Estimated.

Octamethyl Cyclotetrasiloxane

Partition coefficient (Koc): 16596 OECD Test Guideline 106

Decamethylcyclopentasiloxane

Partition coefficient (Koc): > 5000 Estimated.

13. DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device. For additional information, refer to: Handling & Storage Information, MSDS Section 7 Stability & Reactivity Information, MSDS Section10 Regulatory Information, MSDS Section 15

Treatment and disposal methods of used packaging: Empty containers should be recycled or otherwise disposed of by an approved waste management facility. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Do not re-use containers for any purpose.

14. TRANSPORT INFORMATION

DOT

Proper shipping name	Petroleum distillates, n.o.s.
UN number	UN 1268
Class	3
Packing group	II
Reportable Quantity	Xylene

Classification for SEA transport (IMO-IMDG):

Proper shipping name	PETROLEUM DISTILLATES, N.O.S.
UN number	UN 1268
Class	3
Packing group	II
Marine pollutant	Octamethyl Cyclotetrasiloxane, Solvent naphtha (petroleum),light aliphatic
Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code	Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Proper shipping name	Petroleum distillates, n.o.s.
UN number	UN 1268
Class	3
Packing group	II

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
Flammable (gases, aerosols, liquids, or solids)
Hazard not otherwise classified (physical hazards)
Respiratory or skin sensitisation
Carcinogenicity
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)
Skin corrosion or irritation
Serious eye damage or eye irritation

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 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.

Pennsylvania Right To Know
The following chemicals are listed because of the additional requirements of Pennsylvania law:

Components	**CASRN**
Distillates, petroleum, light distillate hydrotreating process, low-boiling	68410-97-9
Polydimethylsiloxane hydroxy-terminated	70131-67-8
Hydrophobic amorphous fumed silica	68909-20-6
Vinyltri (methylethylketoxime) silane	2224-33-1
Methyl Ethyl Ketoxime	96-29-7

California Prop. 65
WARNING: This product can expose you to chemicals including Ethylbenzene, Benzene, which is/are known to the State of California to cause cancer, and Toluene, Benzene, which is/are known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

United States TSCA Inventory (TSCA)
All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

16. OTHER INFORMATION

Hazard Rating System
NFPA

Health	Flammability	Instability
3	3	0

HMIS

Health	Flammability	Physical Hazard
4*	3	0

* = Chronic Effects (See Hazards Identification)

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Identification Number: 2297698 / A713 / Issue Date: 12/09/2021 / Version: 9.0
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

Dow IHG	Dow Industrial Hygiene Guideline
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
TWA	Time weighted average
US WEEL	USA. Workplace Environmental Exposure Levels (WEEL)

Full text of other abbreviations
AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; 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; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - 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

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

DOW SILICONES CORPORATION urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.
US