

# **SAFETY DATA SHEET**

## THE DOW CHEMICAL COMPANY

Product name: DOWSIL™ 96-083 Silicone Adhesive Base Issue Date: 01/15/2024 Print Date: 01/16/2024

THE DOW CHEMICAL COMPANY 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™ 96-083 Silicone Adhesive Base

Recommended use of the chemical and restrictions on use

Identified uses: Adhesive, binding agents

**COMPANY IDENTIFICATION** 

THE DOW CHEMICAL COMPANY 2211 H.H. DOW WAY MIDLAND MI 48674 UNITED STATES

**Customer Information Number:** 800-258-2436

SDSQuestion@dow.com

**EMERGENCY TELEPHONE NUMBER** 

24-Hour Emergency Contact: CHEMTREC +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)

Reproductive toxicity - Category 2

Label elements Hazard pictograms



Signal word: WARNING!

#### **Hazards**

Suspected of damaging fertility or the unborn child.

#### **Precautionary statements**

#### Prevention

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves, protective clothing, eye protection and/or face protection.

## Response

IF exposed or concerned: Get medical advice/ attention.

#### Storage

Store locked up.

#### Disposal

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

#### Other hazards

No data available

# 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Silicone elastomer

This product is a mixture.

Component CASRN Concentration

556-67-2

Octamethyl Cyclotetrasiloxane

# 4. FIRST AID MEASURES

# Description of first aid measures

#### General advice:

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:** Wash off with plenty of water.

Eye contact: Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

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

## Most important symptoms and effects, both acute and delayed:

Suspected of damaging fertility or the unborn child.

Indication of any immediate medical attention and special treatment needed

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>= 0.09 - <= 0.13 %

**Notes to physician:** 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. Carbon dioxide (CO2). Dry chemical. Water spray.

Unsuitable extinguishing media: None known...

## Special hazards arising from the substance or mixture

Hazardous combustion products: Silicon oxides. Carbon oxides.

**Unusual Fire and Explosion Hazards:** Exposure to combustion products may be a hazard to health...

## 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..

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:** 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:** Soak up with inert absorbent material. 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. See sections: 7, 8, 11, 12 and 13.

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# 7. HANDLING AND STORAGE

Precautions for safe handling: Avoid inhalation of vapour or mist. Avoid contact with eyes. Do not swallow. Avoid prolonged or repeated contact with skin. Take care to prevent spills, waste and minimize release to the environment. 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 only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

**Conditions for safe storage:** Keep in properly labelled containers. Store locked up. Store in accordance with the particular national regulations.

Do not store with the following product types: Strong oxidizing agents.

Unsuitable materials for containers: None known.

# 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
Octamethyl	US WEEL	TWA	10 ppm
Cyclotetrasiloxane			

## **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 safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Examples of preferred glove barrier

frequently repeated contact could occur. Examples of preferred glove barrier materials include: Butyl rubber. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Natural rubber ("latex"). 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: Wear clean, body-covering clothing.

**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 discomfort is experienced, use an approved air-purifying respirator. The following should be effective types of air-purifying respirators: Organic vapor cartridge.

# 9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance** 

Physical state liquid

**Color** Colorless to pale yellow

**Odor** slight

Odor Threshold

pH

No data available

No data available

Melting point/range

No data available

Flash point Seta closed cup 246 °C (475 °F)

**Evaporation Rate (Butyl Acetate** 

= 1)

No data available

Flammability (solid, gas)

Flammability (liquids)

Lower explosion limit

Upper explosion limit

Vapor Pressure

Relative Vapor Density (air = 1)

Not applicable

Not applicable

No data available

No data available

Relative Density (water = 1) 1.08

Water solubility

Partition coefficient: n
No data available

No data available

octanol/water

N. 14 711

Auto-ignition temperatureNo data availableDecomposition temperatureNo data available

Kinematic Viscosity < 20000 cSt at 25 °C (77 °F)

**Explosive properties** Not explosive

Oxidizing properties The substance or mixture is not classified as oxidizing.

Molecular weightNo data availableParticle sizeNot 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 180 °C (356 °F) in the presence of air, trace quantities of formaldehyde may be released. Adequate ventilation is required.

Conditions to avoid: None known.

Incompatible materials: Avoid contact with oxidizing materials.

# **Hazardous decomposition products:**

Decomposition products can include and are not limited to: Formaldehyde.

## 11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data are 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 Toxicity Endpoints:**

Not classified based on available information.

## **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, > 5,000 mg/kg Estimated.

## Information for components:

#### Octamethyl Cyclotetrasiloxane

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

# **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, > 2,000 mg/kg Estimated.

#### Information for components:

#### **Octamethyl Cyclotetrasiloxane**

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

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## Acute inhalation toxicity

#### Information for the Product:

No adverse effects are anticipated from single exposure to vapor. Excessive exposure may cause irritation to upper respiratory tract (nose and throat).

As product: The LC50 has not been determined.

## Information for components:

# Octamethyl Cyclotetrasiloxane

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

#### Skin corrosion/irritation

Not classified based on available information.

#### Information for the Product:

Based on information for component(s): Brief contact is essentially nonirritating to skin.

## Information for components:

## Octamethyl Cyclotetrasiloxane

Brief contact is essentially nonirritating to skin.

#### Serious eye damage/eye irritation

Not classified based on available information.

#### Information for the Product:

Based on information for component(s): May cause slight temporary eye irritation.

## Information for components:

#### Octamethyl Cyclotetrasiloxane

Essentially nonirritating to eyes.

#### Sensitization

## For skin sensitization:

Not classified based on available information.

## For respiratory sensitization:

Not classified based on available information.

#### Information for the Product:

For skin sensitization:

Contains component(s) which did not cause allergic skin sensitization in guinea pigs.

For respiratory sensitization:

No relevant data found.

#### Information for components:

#### Octamethyl Cyclotetrasiloxane

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

For respiratory sensitization:

No relevant data found.

## **Specific Target Organ Systemic Toxicity (Single Exposure)**

Not classified based on available information.

#### Information for the Product:

Product test data not available.

## Information for components:

## Octamethyl Cyclotetrasiloxane

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

# **Aspiration Hazard**

Not classified based on available information.

#### Information for the Product:

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

## Information for components:

## Octamethyl Cyclotetrasiloxane

Material is not classified as an aspiration hazard based on insufficient data, however materials with low viscosity may be aspirated into the lungs during ingestion or vomiting.

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)

Not classified based on available information.

## Information for the Product:

Product test data not available.

## Information for components:

## Octamethyl Cyclotetrasiloxane

In animals, effects have been reported on the following organs:

Kidney.

Liver.

Respiratory tract.

Female reproductive organs.

## Carcinogenicity

Not classified based on available information.

#### Information for the Product:

Product test data not available.

#### Information for components:

#### 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.

## **Teratogenicity**

Suspected of damaging fertility or the unborn child.

#### Information for the Product:

Product test data not available.

#### Information for components:

## Octamethyl Cyclotetrasiloxane

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

## Reproductive toxicity

Suspected of damaging fertility or the unborn child.

#### Information for the Product:

Product test data not available.

## Information for components:

#### 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.

# Mutagenicity

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Not classified based on available information.

#### Information for the Product:

Product test data not available.

## Information for components:

#### Octamethyl Cyclotetrasiloxane

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 are available.

## **Toxicity**

## Octamethyl Cyclotetrasiloxane

# Acute toxicity to fish

Based on testing of comparable products: The estimated maximum aqueous concentration of Octamethyl Cyclotetrasiloxane (D4) from migration to water from the product as supplied is below the D4 established no-effect threshold (< 0.0079 mg/L) for aquatic organisms.

## Chronic toxicity to aquatic invertebrates

Based on testing for product(s) in this family of materials:

Not classified due to data which are conclusive although insufficient for classification.

# Persistence and degradability

#### **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

## Bioaccumulative potential

# 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

## Mobility in soil

# Octamethyl Cyclotetrasiloxane

Partition coefficient (Koc): 16596 OECD Test Guideline 106

# 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 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 SDS SECTION 1: Identified Uses. 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 Section 10 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 of the waste generator. Do not re-use containers for any purpose.

#### 14. TRANSPORT INFORMATION

DOT

**Proper shipping name** Environmentally hazardous substance, liquid, n.o.s.(Xylene)

UN number UN 3082

Class 9
Packing group III
Reportable Quantity Xylene

Classification for SEA transport (IMO-IMDG):

Not regulated for transport

Consult IMO regulations before transporting ocean bulk

Transport in bulk according to Annex I or II of MARPOL 73/78 and the

**IBC or IGC Code** 

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

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

Reproductive toxicity

# 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
Dimethyl Siloxane, Dimethylvinylsiloxy-terminated	68083-19-2
Hexamethyldisilazane reaction with Silica	68909-20-6
Dimethylvinylated and trimethylated silica	68988-89-6

## California Prop. 65

WARNING: This product can expose you to chemicals including Ethylbenzene, which is/are known to the State of California to cause cancer. 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
	0	1	0
НМ	IS		
	Health	Flammability	Physical Hazard

1

#### Revision

Identification Number: 4060671 / A001 / Issue Date: 01/15/2024 / Version: 8.0 Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

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<sup>\* =</sup> Chronic Effects (See Hazards Identification)

Legend

TIMA	O La TIMA
TWA	8-hr TWA
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.

THE DOW CHEMICAL COMPANY 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

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