



SAFETY DATA SHEET

DOW SILICONES CORPORATION

Product name: DOWSIL™ 733 Glass & Metal Sealant Aluminium

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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™ 733 Glass & Metal Sealant Aluminium

Recommended use of the chemical and restrictions on use

Identified uses: Adhesive, binding agents

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 29 CFR 1910.1200

Not a hazardous substance or mixture.

Label elements

Precautionary statements

Prevention

Use only outdoors or in a well-ventilated area.

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature: Silicone elastomer

This product is a mixture.

| Component | CASRN | Concentration |
|-----------|-----------|---------------------|
| Aluminium | 7429-90-5 | >= 0.44 - <= 1.12 % |

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; if effects occur, 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: 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: 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: Water spray. Alcohol-resistant foam. Carbon dioxide (CO₂). Dry chemical.

Unsuitable extinguishing media: None known..

Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon oxides. Silicon oxides. Metal oxides.

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

Advice for firefighters

Fire Fighting Procedures: 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 firefighters: Wear self-contained breathing apparatus for firefighting if necessary.. Use personal protective equipment..

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: 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. 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: Wipe up or scrape up and contain for salvage or disposal. 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, Sections 13 and 15 of this SDS provide information regarding certain local or national requirements. See sections: 7, 8, 11, 12 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling: Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice. Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

Conditions for safe storage: Keep in properly labelled containers. 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 |
|-----------|------------|-------------------------|----------------------------------|
| Aluminium | NIOSH REL | TWA Respirable | 5 mg/m ³ |
| | NIOSH REL | TWA total | 10 mg/m ³ |
| | OSHA Z-1 | TWA total dust | 15 mg/m ³ , Aluminium |
| | OSHA Z-1 | TWA respirable fraction | 5 mg/m ³ , Aluminium |
| | OSHA P0 | TWA Total dust | 15 mg/m ³ , Aluminium |

| | | | |
|--|--|------------------------------|---------------------|
| | OSHA P0 | TWA respirable dust fraction | 5 mg/m3 , Aluminium |
| | NIOSH REL | TWA welding fumes | 5 mg/m3 , Aluminium |
| | NIOSH REL | TWA pyro powders | 5 mg/m3 , Aluminium |
| | ACGIH | TWA Respirable fraction | 1 mg/m3 , Aluminium |
| | Further information: LRT irr: Lower Respiratory Tract irritation; pneumoconiosis: Pneumoconiosis; neurotoxicity: Neurotoxicity; A4: Not classifiable as a human carcinogen; varies: varies | | |
| | OSHA P0 | TWA Fumes | 5 mg/m3 |
| | Further information: *: As determined from breathing-zone air samples. | | |

Although some of the components of this product may have exposure guidelines, no exposure would be expected under normal handling conditions due to the physical state of the material.

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: Chemical protective gloves should not be needed when handling this material.

Consistent with general hygienic practice for any material, skin contact should be minimized.

Other protection: No precautions other than clean body-covering clothing should be needed.

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 | paste |
| Color | grey |
| Odor | acetic acid |
| Odor Threshold | No data available |
| pH | Not applicable |
| Melting point/range | No data available |
| Freezing point | No data available |
| Boiling point (760 mmHg) | Not applicable |
| Flash point | Not applicable |

| | |
|---|--|
| Evaporation Rate (Butyl Acetate = 1) | Not applicable |
| Flammability (solid, gas) | Not classified as a flammability hazard |
| Lower explosion limit | No data available |
| Upper explosion limit | No data available |
| Vapor Pressure | Not applicable |
| Relative Vapor Density (air = 1) | No data available |
| Relative Density (water = 1) | 1.04 |
| Water solubility | No data available |
| Partition coefficient: n-octanol/water | No data available |
| Auto-ignition temperature | No data available |
| Decomposition temperature | No data available |
| Dynamic Viscosity | Not applicable |
| Kinematic Viscosity | Not applicable |
| Explosive properties | Not explosive |
| Oxidizing properties | The substance or mixture is not classified as oxidizing. |
| Molecular weight | No data available |
| Particle size | No data available |

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.

Conditions to avoid: None known.

Incompatible materials: Oxidizing agents

Hazardous decomposition products:

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

11. TOXICOLOGICAL INFORMATION

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

Acute toxicity

Acute oral toxicity

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.

Acute dermal toxicity

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.

Acute inhalation toxicity

Brief exposure (minutes) is not likely to cause adverse effects.

As product: The LC50 has not been determined.

Skin corrosion/irritation

Prolonged contact is essentially nonirritating to skin.

Serious eye damage/eye irritation

May cause slight temporary eye irritation.

Corneal injury is unlikely.

May cause mild eye discomfort.

Sensitization

For skin sensitization:

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

For respiratory sensitization:

No relevant information found.

Specific Target Organ Systemic Toxicity (Single Exposure)

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

Specific Target Organ Systemic Toxicity (Repeated Exposure)

For this family of materials:

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

Contains an additional component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

Carcinogenicity

For this family of materials: Did not cause cancer in long-term animal studies which used routes of exposure considered relevant to industrial handling. Positive results have been reported in other studies using routes of exposure not relevant to industrial handling.

Contains an additional component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

Teratogenicity

For this family of materials: Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity

For this family of materials: In animal studies, did not interfere with reproduction.

Mutagenicity

For this family of materials: In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Aspiration Hazard

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

COMPONENTS INFLUENCING TOXICOLOGY:**Aluminium****Acute inhalation toxicity**

LC50, Rat, 4 Hour, dust/mist, > 0.888 mg/l OECD Test Guideline 403 No deaths occurred at this concentration.

12. ECOLOGICAL INFORMATION

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

Toxicity**Aluminium****Acute toxicity to fish**

NOEC, Salmo trutta (brown trout), 96 Hour, > 80 µg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates

NOEC, Daphnia magna (Water flea), 48 Hour, > 0.135 mg/l, OECD Test Guideline 202

Persistence and degradability

No data available.

Bioaccumulative potential

No data available.

Mobility in soil

No data available.

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 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 solely of the waste generator. Do not re-use containers for any purpose.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

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

Not regulated for transport
Consult IMO regulations before transporting ocean bulk

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

No SARA Hazards

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

The following components are subject to reporting levels established by SARA Title III, Section 313:

Components

Aluminium

CASRN

7429-90-5

**Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA)
Section 103**

Calculated RQ exceeds reasonably attainable upper limit.

| Components | CASRN | RQ (RCRA Code) |
|------------------|----------|-------------------|
| Methanol | 67-56-1 | 5000 lbs RQ |
| Methanol | 67-56-1 | 100 lbs RQ (F003) |
| Acetic anhydride | 108-24-7 | 5000 lbs RQ |
| Acetic acid | 64-19-7 | 5000 lbs RQ |

Pennsylvania Right To Know

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

| Components | CASRN |
|---|------------|
| Polydimethylsiloxane hydroxy-terminated | 70131-67-8 |
| Silicon dioxide | 7631-86-9 |
| Siloxanes and silicones, dimethyl | 63148-62-9 |
| Aluminium | 7429-90-5 |

California Prop. 65WARNING: This product can expose you to chemicals including Methanol, 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 |
|--------|--------------|-------------|
| 0 | 1 | 0 |

HMIS

| Health | Flammability | Physical Hazard |
|--------|--------------|-----------------|
| 0/ | 1 | 0 |

Revision

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Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

| | |
|-----------|--|
| ACGIH | USA. ACGIH Threshold Limit Values (TLV) |
| NIOSH REL | USA. NIOSH Recommended Exposure Limits |
| OSHA P0 | USA. OSHA - TABLE Z-1 Limits for Air Contaminants - 1910.1000 |
| OSHA Z-1 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| TWA | 8-hour, time-weighted average |

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; 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; 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