# SAFETY DATA SHEET

**DOW CHEMICAL COMPANY LIMITED**

Safety Data Sheet according to Reg. (EU) No 2015/830

**Product name: DOWSIL™ SE 4485 L**

**Revision Date:** 07.03.2019
**Version:** 1.0
**Date of last issue:** -
**Print Date:** 08.03.2019

DOW CHEMICAL COMPANY LIMITED 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.

## SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**1.1 Product identifier**
**Product name:** DOWSIL™ SE 4485 L

**1.2 Relevant identified uses of the substance or mixture and uses advised against**
**Identified uses:** Adhesive, binding agents

**1.3 Details of the supplier of the safety data sheet**
**COMPANY IDENTIFICATION**
DOW CHEMICAL COMPANY LIMITED
STATION ROAD, BIRCH VALE, HIGH PEAK
DERBYSHIRE
England
SK22 1BR
UNITED KINGDOM

**Customer Information Number:** +44 (0) 1663 746518
SDSQuestion@dow.com
**Fax:** +44 (0) 1663 746605

**1.4 EMERGENCY TELEPHONE NUMBER**
**24-Hour Emergency Contact:** 0031 115 694 982
**Local Emergency Contact:** 00 31 115 69 4982

## SECTION 2: HAZARDS IDENTIFICATION

**2.1 Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008:**
Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

**2.2 Label elements**

**Labelling according to Regulation (EC) No 1272/2008:**
Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

**2.3 Other hazards**
No data available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical nature:** Silicone, Sealant
**3.2 Mixtures**

This product is a mixture.

| CASRN / EC-No. / Index-No. | REACH Registration Number | Concentration | Component | Classification: REGULATION (EC) No 1272/2008 |
|---|---|---|---|---|
| Substances with a workplace exposure limit | | | | |
| **CASRN** Not available **EC-No.** Not available **Index-No.** – | – | >= 79.0 - <= 97.0 % | Methyltrimethoxysilane treated aluminum oxide | Not classified |

## SECTION 4: FIRST AID MEASURES

**4.1 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.

**4.2 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.

**4.3 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.

## SECTION 5: FIREFIGHTING MEASURES

**5.1 Extinguishing media**
**Suitable extinguishing media:** Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical

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

**5.2 Special hazards arising from the substance or mixture**
**Hazardous combustion products:** Silicon oxides Metal oxides Formaldehyde Carbon oxides

**Unusual Fire and Explosion Hazards:** Flash back possible over considerable distance. Exposure to combustion products may be a hazard to health. Vapours may form explosive mixtures with air.

**5.3 Advice for firefighters**
**Fire Fighting Procedures:** 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. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. 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.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

**6.1 Personal precautions, protective equipment and emergency procedures:** Remove all sources of ignition. Follow safe handling advice and personal protective equipment recommendations.

**6.2 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.

**6.3 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, Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

**6.4 Reference to other sections:**
See sections: 7, 8, 11, 12 and 13.

## SECTION 7: HANDLING AND STORAGE

**7.1 Precautions for safe handling:** Keep container tightly closed. 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. Handle in accordance with good industrial hygiene and safety practice.
Use with local exhaust ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

**7.2 Conditions for safe storage, including any incompatibilities:** Keep in properly labelled containers. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Do not store with the following product types: Strong oxidizing agents. Explosives. Gases.
Unsuitable materials for containers**:** None known.

**7.3 Specific end use(s):** See the technical data sheet on this product for further information.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

**8.1 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/Notation |
|---|---|---|---|
| Methyltrimethoxysilane treated aluminum oxide | ACGIH | TWA Respirable fraction | 1 mg/m3 , Aluminium |
| | GB EH40 | TWA inhalable dust | 10 mg/m3 |
| | GB EH40 | TWA Respirable dust | 4 mg/m3 |
| methanol | ACGIH | TWA | 200 ppm |
| | ACGIH | STEL | 250 ppm |
| | ACGIH | TWA | SKIN |
| | ACGIH | STEL | SKIN |
| | 2006/15/EC | TWA | 260 mg/m3 200 ppm |
| | 2006/15/EC | TWA | SKIN |
| | GB EH40 | TWA | 266 mg/m3 200 ppm |
| | GB EH40 | TWA | SKIN |
| | GB EH40 | STEL | 333 mg/m3 250 ppm |
| | GB EH40 | STEL | SKIN |

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

**Biological occupational exposure limits**

| Components | CAS-No. | Control parameters | Biological specimen | Sampling time | Permissible concentration | Basis |
|---|---|---|---|---|---|---|
| methanol | 67-56-1 | Methanol | Urine | End of | 15 mg/l | ACGIH |

| | | |
|---|---|---|
| | shift (As soon as possible after exposure ceases) | BEI |

**8.2 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). Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

**Skin protection**

**Hand protection:** Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Butyl rubber. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Examples of acceptable glove barrier materials include: Natural rubber ("latex"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended. Glove thickness alone is not a good indicator of the level of protection a glove provides against a chemical substance as this level of protection is also highly dependent on the specific composition of the material that the glove is fabricated from. The thickness of the glove must, depending on model and type of material, generally be more than 0.35 mm to offer sufficient protection for prolonged and frequent contact with the substance. As an exception to this general rule it is known that multilayer laminate gloves may offer prolonged protection at thicknesses less than 0.35 mm. Other glove materials with a thickness of less than 0.35 mm may offer sufficient protection when only brief contact is expected. 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, use an approved respirator. When respiratory protection is required, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply.

**Environmental exposure controls**
See SECTION 7: Handling and storage and SECTION 13: Disposal considerations for measures to prevent excessive environmental exposure during use and waste disposal.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

**9.1 Information on basic physical and chemical properties**

| | |
|---|---|
| **Appearance** | |
| **Physical state** | viscous liquid |
| **Color** | white |
| **Odor** | slight |
| **Odor Threshold** | No data available |
| **pH** | No data available |
| **Melting point/range** | No data available |
| **Freezing point** | No data available |
| **Boiling point (760 mmHg)** | > 100 °C |
| **Flash point** | **closed cup** 90 °C |
| **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)** | 2.83 |
| **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** | 1,000 poise |
| **Kinematic Viscosity** | No data available |
| **Explosive properties** | Not explosive |
| **Oxidizing properties** | The substance or mixture is not classified as oxidizing. |

**9.2 Other information**

| | |
|---|---|
| **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.

## SECTION 10: STABILITY AND REACTIVITY

**10.1 Reactivity:** Not classified as a reactivity hazard.

**10.2 Chemical stability:** Stable under normal conditions.

**10.3 Possibility of hazardous reactions:** Can react with strong oxidizing agents. When heated to temperatures above 150 °C (300 °F) in the presence of air, product can form formaldehyde vapours. Safe handling conditions may be maintained by keeping vapour concentrations within the occupational exposure limit for formaldehyde. Vapours may form explosive mixture with air. Combustible liquid.

**10.4 Conditions to avoid:** Heat, flames and sparks.

**10.5 Incompatible materials:** Oxidizing agents

**10.6 Hazardous decomposition products:** Methanol. Formaldehyde.

## SECTION 11: TOXICOLOGICAL INFORMATION

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

**11.1 Information on toxicological effects**
**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**
At room temperature, exposure to vapor is minimal due to low volatility; single exposure is not likely to be hazardous. Vapor from heated material or mist may cause respiratory irritation.
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 eye irritation.

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

For respiratory sensitization:
No relevant data 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)**
No relevant data found.

**Carcinogenicity**
No relevant data found.

**Teratogenicity**
For the component(s) tested: Did not cause birth defects or any other fetal effects in laboratory animals.

**Reproductive toxicity**
No relevant data found.

**Mutagenicity**
In vitro genetic toxicity studies were negative for component(s) tested.

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

**COMPONENTS INFLUENCING TOXICOLOGY:**

**Methyltrimethoxysilane treated aluminum oxide**

**Acute inhalation toxicity**
For similar material(s): LC50, Rat, male and female, dust/mist, > 2.3 mg/l No deaths occurred at this concentration.

## SECTION 12: ECOLOGICAL INFORMATION

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

**12.1 Toxicity**

**Acute toxicity to fish**
Not expected to be acutely toxic to aquatic organisms.

**12.2 Persistence and degradability**

**Biodegradability:** No relevant data found.

**12.3 Bioaccumulative potential**

**Bioaccumulation:** No relevant data found.

**12.4 Mobility in soil**

No relevant data found.

**12.5 Results of PBT and vPvB assessment**

No specific, relevant data available for assessment.

**12.6 Other adverse effects**

No relevant data found.

## SECTION 13: DISPOSAL CONSIDERATIONS

**13.1 Waste treatment methods**
Do not dump into any sewers, on the ground, or into any body of water. This product, when being disposed of in its unused and uncontaminated state should be treated as a hazardous waste according to EC Directive 2008/98/EC. Any disposal practices must be in compliance with all national and provincial laws and any municipal or local by-laws governing hazardous waste. For used, contaminated and residual materials additional evaluations may be required.

The definitive assignment of this material to the appropriate EWC group and thus its proper EWC code will depend on the use that is made of this material. Contact the authorized waste disposal services.

## SECTION 14: TRANSPORT INFORMATION

**Classification for ROAD and Rail transport (ADR/RID):**

| | | |
|---|---|---|
| **14.1** | **UN number** | Not applicable |
| **14.2** | **UN proper shipping name** | Not regulated for transport |
| **14.3** | **Transport hazard class(es)** | Not applicable |
| **14.4** | **Packing group** | Not applicable |
| **14.5** | **Environmental hazards** | Not considered environmentally hazardous based on available data. |
| **14.6** | **Special precautions for user** | No data available. |

**Classification for SEA transport (IMO-IMDG):**

| | | |
|---|---|---|
| **14.1** | **UN number** | Not applicable |
| **14.2** | **UN proper shipping name** | Not regulated for transport |
| **14.3** | **Transport hazard class(es)** | Not applicable |
| **14.4** | **Packing group** | Not applicable |
| **14.5** | **Environmental hazards** | Not considered as marine pollutant based on available data. |
| **14.6** | **Special precautions for user** | No data available. |
| **14.7** | **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):**

| | | |
|---|---|---|
| **14.1** | **UN number** | Not applicable |
| **14.2** | **UN proper shipping name** | Not regulated for transport |
| **14.3** | **Transport hazard class(es)** | Not applicable |
| **14.4** | **Packing group** | Not applicable |
| **14.5** | **Environmental hazards** | Not applicable |

**14.6 Special precautions for user** No data available.

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.

## SECTION 15: REGULATORY INFORMATION

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

**REACh Regulation (EC) No 1907/2006**
This product contains only components that have been either registered, are exempt from registration, are regarded as registered or are not subject to registration according to Regulation (EC) No. 1907/2006 (REACH)., Polymers are exempted from registration under REACH. All relevant starting materials and additives have been either registered, or are exempt from registration according to Regulation (EC) No. 1907/2006 (REACH)., The aforementioned indications of the REACH registration status are provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. It is the buyer´s/user´s responsibility to ensure that his/her understanding of the regulatory status of this product is correct.

**Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances.**
Listed in Regulation: Not applicable

**15.2 Chemical safety assessment**
Not applicable

## SECTION 16: OTHER INFORMATION

**Classification and procedure used to derive the classification for mixtures according to Regulation (EC) No 1272/2008**
This product is not classified as dangerous according to EC criteria.

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

**Legend**

| | |
|---|---|
| 2006/15/EC | Europe. Indicative occupational exposure limit values |
| ACGIH | USA. ACGIH Threshold Limit Values (TLV) |
| ACGIH BEI | ACGIH - Biological Exposure Indices (BEI) |
| GB EH40 | UK. EH40 WEL - Workplace Exposure Limits |
| SKIN | Absorbed via skin |
| STEL | Short-term exposure limit |
| TWA | 8-hour, time-weighted average |

**Full text of other abbreviations**
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road; AICS - Australian Inventory of Chemical Substances; ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA - European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; 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; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; 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; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of Very High Concern; TCSI - Taiwan Chemical Substance Inventory; TRGS - Technical Rule for Hazardous Substances; TSCA - Toxic Substances Control Act (United States); UN - United Nations; 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 CHEMICAL COMPANY LIMITED 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.
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