



# SAFETY DATA SHEET

## DOW CHEMICAL THAILAND LTD

**Product name:** DOWSIL™ 5200 Formulation Aid

**Issue Date:** 23.03.2018

**Print Date:** 12.07.2018

DOW CHEMICAL THAILAND LTD 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. PRODUCT AND COMPANY IDENTIFICATION

---

**Product name:** DOWSIL™ 5200 Formulation Aid

**Recommended use of the chemical and restrictions on use**

**Identified uses:** Surface active agents

### COMPANY IDENTIFICATION

DOW CHEMICAL THAILAND LTD  
75 SOI SAENG CHAN-RUBIA  
SUKHUMVIT ROAD, PRAKANONG  
KLONG TOEY BANGKOK 10110  
THAILAND

**Customer Information Number:**

(66)2-3657000  
SDSQuestion@dow.com

### EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:** (66)38-925-400

**Local Emergency Contact:** 038-925-400

---

## 2. HAZARDS IDENTIFICATION

---

### GHS Classification

Flammable liquids - Category 4

Skin corrosion/irritation - Category 3

### GHS label elements

Signal word: **WARNING!**

### Hazard statements

Combustible liquid.

Causes mild skin irritation.

### Precautionary statements

#### Prevention

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Keep only in original container.  
Wear protective gloves/ eye protection/ face protection.

**Response**

If skin irritation occurs: Get medical advice/ attention.  
In case of fire: Use alcohol-resistant foam, carbon dioxide or water mist for extinction.

**Storage**

Store in a well-ventilated place. Keep cool.

**Disposal**

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

**Other hazards**

May generate flammable hydrogen gas. Avoid contact with water, alcohols, acidic, basic, or oxidizing materials.

---

---

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

---

---

This product is a mixture.

<b>Component</b>	<b>CASRN</b>	<b>Concentration</b>
1-Dodecene	112-41-4	>= 9.3 - <= 9.7 %
Isooctadecanol	27458-93-1	>= 8.8 - <= 9.2 %

---

---

**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. Suitable emergency safety shower facility should be available in work area.

**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

---

**Suitable extinguishing media:** Water spray Alcohol-resistant foam Carbon dioxide (CO<sub>2</sub>)

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

**Special hazards arising from the substance or mixture**

**Hazardous combustion products:** Carbon oxides Silicon oxides Formaldehyde

**Unusual Fire and Explosion Hazards:** Flash back possible over considerable distance. Applying foam will release significant amounts of hydrogen gas that can be trapped under the foam blanket. Exposure to combustion products may be a hazard to health. Vapours may form explosive mixtures with air.

**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. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Do not allow extinguishing medium to contact container contents. Most fire extinguishing media will cause hydrogen evolution, and once the fire is put out, may accumulate in poorly ventilated or confined areas and result in flash fire or explosion if ignited. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

**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. Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.

**Environmental precautions:** Discharge into the environment must be avoided. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil

barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

**Methods and materials for containment and cleaning up:** Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/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, Materials in contact with water, moisture, acids or bases have the potential to generate hydrogen gas. Recovered material should be stored in a vented container. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements. Recovered material should be stored in a vented container. The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to overpressurization of the container. See sections: 7, 8, 11, 12 and 13.

---

## 7. HANDLING AND STORAGE

---

**Precautions for safe handling:** Do not get on skin or clothing. Avoid inhalation of vapour or mist. Do not swallow. Avoid contact with eyes. Keep container tightly closed. Keep away from water. Protect from moisture. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment.

Handle in accordance with good industrial hygiene and safety practice.

Use with local exhaust ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

**Conditions for safe storage:** Keep in properly labelled containers. Store in original container. 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. Product may evolve minute quantities of flammable hydrogen gas which can accumulate. Adequately ventilate to maintain vapors well below flammability limits and exposure guidelines. Do not repackage. Clogged container vents may increase pressure build up. Store in a closed container.

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

Unsuitable materials for containers: Do not store in or use containers except the original product package. Do not store in or use containers except the original product package.

---

## 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.

### 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 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"). 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 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	amber
Odor	characteristic
Odor Threshold	No data available
pH	No data available
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	> 35 °C
Flash point	<b>Pensky-Martens closed cup 87.7 °C</b>
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)	0.896
Water solubility	No data available

<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Auto-ignition temperature</b>	No data available
<b>Decomposition temperature</b>	No data available
<b>Kinematic Viscosity</b>	2500 cSt at 25 °C
<b>Explosive properties</b>	Not explosive
<b>Oxidizing properties</b>	The substance or mixture is not classified as oxidizing.
<b>Molecular weight</b>	No data available
<b>Particle size</b>	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. Vapours may form explosive mixture with air. Product may evolve flammable hydrogen gas on contact with water, alcohols, acidic or basic materials, many metals or metallic compounds and can form explosive mixtures in air. Hazardous decomposition products will be formed at elevated temperatures. Combustible liquid.

**Conditions to avoid:** Heat, flames and sparks. Exposure to moisture

**Incompatible materials:** Oxidizing agents

**Hazardous decomposition products**

No hazardous decomposition products are known.

---

## 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, Rabbit, > 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**

Brief contact may cause skin irritation with local redness.

**Serious eye damage/eye irritation**

May cause slight temporary eye irritation.

**Sensitization**

Did not cause allergic skin reactions when tested in humans.

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)**

Based on information for component(s):  
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

**Carcinogenicity**

No relevant data found.

**Teratogenicity**

No relevant data found.

**Reproductive toxicity**

No relevant data found.

**Mutagenicity**

Contains a component(s) which were negative in in vitro genetic toxicity studies. Contains component(s) which were negative in animal genetic toxicity studies.

**Aspiration Hazard**

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

**COMPONENTS INFLUENCING TOXICOLOGY:**

**1-Dodecene**

**Acute inhalation toxicity**

LC50, Rat, 4 Hour, vapour, 55.4 mg/l OECD Test Guideline 403

---

## 12. ECOLOGICAL INFORMATION

---

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

### Ecotoxicity

#### 1-Dodecene

##### **Acute toxicity to aquatic invertebrates**

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).

Based on data from similar materials

EC50, Daphnia magna (Water flea), 48 Hour, > 1,000 mg/l, OECD Test Guideline 202, Test substance: Water Accommodated Fraction

##### **Acute toxicity to algae/aquatic plants**

No toxicity at the limit of solubility

##### **Toxicity to bacteria**

NOEC, 14 d, 2 mg/l

#### Isooctadecanol

##### **Acute toxicity to fish**

LC50, Cyprinus carpio (Carp), 96 Hour, > 100 mg/l, OECD Test Guideline 203

##### **Acute toxicity to aquatic invertebrates**

Based on data from similar materials

EC50, Daphnia magna (Water flea), 48 Hour, 1,700 mg/l

##### **Acute toxicity to algae/aquatic plants**

No toxicity at the limit of solubility

Based on data from similar materials

EC50, Desmodesmus subspicatus (green algae), 96 Hour, > 10 mg/l

##### **Toxicity to bacteria**

Based on data from similar materials

EC0, 3 Hour, > 82.4 g/L

##### **Chronic toxicity to aquatic invertebrates**

NOELR, Daphnia magna (Water flea), 21 d, 0.17 mg/l

### Persistence and degradability

#### 1-Dodecene

**Biodegradability:** Material is expected to be readily biodegradable.

**Theoretical Oxygen Demand:** 3.42 mg/mg

**Photodegradation**



**Test Type:** Half-life (indirect photolysis)  
**Sensitization:** OH radicals  
**Atmospheric half-life:** 0.277 d  
**Method:** Estimated.

#### Isooctadecanol

**Biodegradability:**  
**Biodegradation:** 66 - 72 %  
**Exposure time:** 28 d  
**Method:** OECD Test Guideline 301

#### Bioaccumulative potential

##### 1-Dodecene

**Bioaccumulation:** Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).  
**Partition coefficient: n-octanol/water(log Pow):** 6.10 Estimated.  
**Bioconcentration factor (BCF):** 313 Fish Estimated.

##### Isooctadecanol

**Bioaccumulation:** Based on data from similar materials  
**Partition coefficient: n-octanol/water(log Pow):** > 3  
**Bioconcentration factor (BCF):** 60 *Leuciscus idus* (Golden orfe)

#### Mobility in Soil

##### 1-Dodecene

Expected to be relatively immobile in soil (Koc > 5000).  
**Partition coefficient (Koc):** > 5000 Estimated.

#### Results of PBT and vPvB assessment

##### 1-Dodecene

This substance is not considered to be persistent, bioaccumulating and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulating (vPvB).

#### Other adverse effects

##### 1-Dodecene

This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

---

## 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: Recycler. Reclaimer. Incinerator or other thermal destruction device.

This product when disposed of in its unused and uncontaminated state should be treated as a hazardous waste.

---

---

## **14. TRANSPORT INFORMATION**

---

**Classification for ROAD and Rail transport:**

Not regulated for transport

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

Not regulated for transport

**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):**

Not regulated for transport

**Further information:**

VENTED PACKAGES ARE FORBIDDEN FOR AIR 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**

---

**Thailand: Notification of Department of Labour Protection and Welfare (List of Hazardous Chemicals)**

All components of this product are not listed.

**Hazardous Substance Act B.E. 2535**

Not applicable

**Emergency Decree on Controlling the Use of Volatile Substances B.E. 2533**

Not applicable

---

**16. OTHER INFORMATION**

---

**Revision**

Identification Number: 4019080 / A176 / Issue Date: 23.03.2018 / Version: 3.0

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

**Full text of other abbreviations**

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

DOW CHEMICAL THAILAND LTD 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.

TH