



SAFETY DATA SHEET

DOW CHEMICAL THAILAND LTD

Product name: DOWSIL™ HMW 2220 Non-Ionic Emulsion

Issue Date: 01.03.2023

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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™ HMW 2220 Non-Ionic Emulsion

Recommended use of the chemical and restrictions on use

Identified uses: Cosmetics Coatings Textiles and leather treatment Additives Intermediate Softeners

COMPANY IDENTIFICATION

DOW CHEMICAL THAILAND LTD
99/1 BJC 2 BUILDING,
SOI SAENGCHAN-RUBIA,
SUKHUMVIT 42 ROAD, PRAKANONG, KLONGTOEY,
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

Short-term (acute) aquatic hazard - Category 3

GHS label elements

Hazard statements

Harmful to aquatic life.

Precautionary statements

Prevention

Avoid breathing spray.
Use only outdoors or in a well-ventilated area.
Avoid release to the environment.

Disposal

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

Other hazards

No data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Concentration
Alcohols, C12-13, ethoxylated	66455-14-9	>= 2.7 - <= 2.8 %
Alcohols C12-13, ethoxylated	66455-14-9	>= 2.0 - <= 2.1 %

4. FIRST AID MEASURES

Description of first aid measures**General advice:**

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

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

Skin contact: 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: Rinse mouth with water. No emergency medical treatment necessary.

Most important symptoms and effects, both acute and delayed:

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

Indication of any immediate medical attention and special treatment needed

Notes to physician: 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.. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage.. 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: 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: Do not release the product to the aquatic environment above defined regulatory levels. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up: 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.

7. HANDLING AND STORAGE

Precautions for safe handling: Avoid inhalation of vapour or mist. 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 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.

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

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

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	liquid
Color	white
Odor	characteristic
Odor Threshold	No data available
pH	7
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	> 35 °C
Flash point	closed cup >100 °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)	0.99
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Kinematic Viscosity	7000 mm ² /s at 25 °C
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing.
Molecular weight	No data available
Particle size	Not applicable

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

10. STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard.

Chemical stability: Stable under normal conditions.

Possibility of hazardous reactions: Can react with strong oxidizing agents.

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, Rat, > 5,000 mg/kg Estimated.

Information for components:

Alcohols, C12-13, ethoxylated

Single dose oral LD50 has not been determined.

For similar material(s): LD50, Rat, > 2,000 mg/kg

Alcohols C12-13, ethoxylated

LD50, Rat, 13,627 mg/kg

Acute dermal toxicity

Information for the Product:

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

As product: The dermal LD50 has not been determined.

Based on information for component(s):

LD50, Rabbit, > 2,000 mg/kg Estimated.

Information for components:

Alcohols, C12-13, ethoxylated

The dermal LD50 has not been determined.

For similar material(s): LD50, Rat, > 2,000 mg/kg OECD Test Guideline 402

Alcohols C12-13, ethoxylated

LD50, Rabbit, > 2,000 mg/kg

Acute inhalation toxicity

Information for the Product:

Brief exposure (minutes) is not likely to cause adverse effects. Vapor from heated material or mist may cause respiratory irritation or other effects.

As product: The LC50 has not been determined.

Information for components:

Alcohols, C12-13, ethoxylated

The LC50 has not been determined.

For similar material(s): LC50, Rat, male, 4 Hour, dust/mist, > 1.6 mg/l

Alcohols C12-13, ethoxylated

LC50, Rat, male, 4 Hour, dust/mist, > 1.6 mg/l

Skin corrosion/irritation

Not classified based on available information.

Information for the Product:

Based on information for component(s):
Brief contact may cause slight skin irritation with local redness.

Information for components:

Alcohols, C12-13, ethoxylated

Prolonged contact may cause slight skin irritation with local redness.

Alcohols C12-13, ethoxylated

Prolonged contact may cause slight skin irritation with local redness.

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:

Alcohols, C12-13, ethoxylated

May cause moderate eye irritation.

Alcohols C12-13, ethoxylated

May cause moderate eye irritation.

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:

Alcohols, C12-13, ethoxylated

For similar material(s):

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

For respiratory sensitization:

No relevant data found.

Alcohols C12-13, ethoxylated

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:

Alcohols, C12-13, ethoxylated

Available data are inadequate to determine single exposure specific target organ toxicity.

Alcohols C12-13, ethoxylated

Available data are inadequate to determine single exposure specific target organ toxicity.

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:

Alcohols, C12-13, ethoxylated

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

Alcohols C12-13, ethoxylated

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

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

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Not classified based on available information.

Information for the Product:

Product test data not available.

Information for components:

Alcohols, C12-13, ethoxylated

No relevant data found.

Alcohols C12-13, ethoxylated

No relevant data found.

Carcinogenicity

Not classified based on available information.

Information for the Product:

Product test data not available.

Information for components:

Alcohols, C12-13, ethoxylated

No relevant data found.

Alcohols C12-13, ethoxylated

No relevant data found.

Teratogenicity

Not classified based on available information.

Information for the Product:

Product test data not available.

Information for components:

Alcohols, C12-13, ethoxylated

No relevant data found.

Alcohols C12-13, ethoxylated

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

Reproductive toxicity

Not classified based on available information.

Information for the Product:

Product test data not available.

Information for components:

Alcohols, C12-13, ethoxylated

No relevant data found.

Alcohols C12-13, ethoxylated

In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Mutagenicity

Not classified based on available information.

Information for the Product:

Product test data not available.

Information for components:

Alcohols, C12-13, ethoxylated

No relevant data found.

Alcohols C12-13, ethoxylated

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

12. ECOLOGICAL INFORMATION

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

Ecotoxicity

Alcohols, C12-13, ethoxylated

Acute toxicity to fish

No relevant data found.

Alcohols C12-13, ethoxylated

Acute toxicity to fish

Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).
LC50, Fathead minnow (*Pimephales promelas*), 96 Hour, 0.96 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

EC50, *Daphnia magna* (Water flea), 48 Hour, 0.46 mg/l

Acute toxicity to algae/aquatic plants

EC50, green alga *Pseudokirchneriella subcapitata* (formerly known as *Selenastrum capricornutum*), 96 Hour, 0.22 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

For similar material(s):

EC50, *Pseudomonas putida*, 16.9 Hour, > 10 g/L, DIN 38 412 Part 8

Chronic toxicity to fish

Pimephales promelas (fathead minnow), 30 day, 1.14 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, *Daphnia magna* (Water flea), 21 d, 0.77 mg/l

Persistence and degradability

Alcohols, C12-13, ethoxylated

Biodegradability: No relevant data found.

Alcohols C12-13, ethoxylated

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

Biodegradation: 95 %

Exposure time: 28 day

Method: OECD Test Guideline 301F or Equivalent

Physico-chemical removability

Rapidly hydrolyzed under alkaline conditions.

Bioaccumulative potential

Alcohols, C12-13, ethoxylated

Bioaccumulation: No relevant data found.

Alcohols C12-13, ethoxylated

Bioaccumulation: Bioconcentration potential is moderate (BCF between 100 and 3000 or Log Pow between 3 and 5).

Partition coefficient: n-octanol/water(log Pow): 4.69 Estimated.

Mobility in Soil

Alcohols, C12-13, ethoxylated

No relevant data found.

Alcohols C12-13, ethoxylated

Partition coefficient (Koc): 7943

Results of PBT and vPvB assessment

Alcohols, C12-13, ethoxylated

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

Alcohols C12-13, ethoxylated

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

Other adverse effects

Alcohols, C12-13, ethoxylated

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

Alcohols C12-13, ethoxylated

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.

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

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

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

Not applicable

Hazardous Substance Act B.E. 2535

This product may subject restriction or prohibition under below authorities due to certain applications. For details, please refer to local regulations to decide if any actions (of notification, registration, and/or license in accordance with the determined specific rules and procedure) are needed before business activity happen (production, import, export or to have it in possession for transport and/or storage).

Department of Agriculture

Not applicable

Department of Energy Business

Not applicable

Department of Livestock

Banned and/or restricted

Department of Industrial Works

Not applicable

Food and Drug Administration

Banned and/or restricted

Department of Fisheries

Not applicable

16. OTHER INFORMATION

Revision

Identification Number: 6024467 / A176 / Issue Date: 01.03.2023 / Version: 8.0

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

Full text of other abbreviations

AllC - Australian Inventory of Industrial Chemicals; 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; 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; IECS - 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; 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; 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.

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