Material Safety Data Sheet

DOW CHEMICAL INTERNATIONAL PVT. LTD.

Product name: DOWCAL™ 100 Heat Transfer Fluid **Issue Date:** 22.07.2025
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DOW CHEMICAL INTERNATIONAL PVT. 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: DOWCAL™ 100 Heat Transfer Fluid

Recommended use of the chemical and restrictions on use
Identified uses: Intended as a heat transfer fluid for closed-loop systems. We recommend that you use this product in a manner consistent with the listed use. If your intended use is not consistent with the stated use, please contact your sales or technical service representative.

COMPANY IDENTIFICATION
DOW CHEMICAL INTERNATIONAL PVT. LTD.
UNIT NO. 801, 8th FLOOR, BUILDING NO. 9,
GIGAPLEX,
TTC INDUSTRIAL AREA, MIDC, AIROLI
NAVI, MUMBAI
400708 NAVI, MUMBAI
INDIA

Customer Information Number: (91) 22-6674-1500
SDSQuestion@dow.com

EMERGENCY TELEPHONE NUMBER
24-Hour Emergency Contact: 91-22-6674-1800
Local Emergency Contact: 0091-22-6674-1800

2. HAZARDS IDENTIFICATION

GHS Classification
Acute toxicity - Category 4 - Oral
Reproductive toxicity - Category 2
Specific target organ toxicity - repeated exposure - Category 2 - Oral

GHS label elements
Hazard pictograms

Signal word: **WARNING!**

Hazard statements

H302	Harmful if swallowed.
H361d	Suspected of damaging the unborn child.
H373	May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.

Precautionary statements

Prevention

P203	Obtain, read and follow all safety instructions before use.
P260	Do not breathe mist or vapours.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P280	Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

Response

P301 + P317 + P330	IF SWALLOWED: Get medical help. Rinse mouth.
P318	IF exposed or concerned, get medical advice.

Storage

P405	Store locked up.

Disposal

P501	Dispose of contents/ 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
Ethylene glycol	107-21-1	>= 90.0 - <= 100.0 %
Water	7732-18-5	>= 1.0 - <= 10.0 %

Disodium sebacate	17265-14-4	>= 1.0 - < 10.0 %
Sodium benzoate	532-32-1	>= 1.0 - < 10.0 %
Dipotassium tetraborate	1332-77-0	>= 1.0 - < 10.0 %
Tolyl triazole	29385-43-1	>= 0.1 - < 0.25 %

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: Immediately flush skin with water while removing contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Destroy contaminated leather items such as shoes, belts, and watchbands. Suitable emergency safety shower facility should be immediately available.

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: Do not induce vomiting. Seek medical attention immediately. If person is fully conscious give 1 cup or 8 ounces (240 ml) of water. If medical advice is delayed and if an adult has swallowed several ounces of chemical, then give 3-4 ounces (1/3-1/2 Cup) (90-120 ml) of hard liquor such as 80 proof whiskey. For children, give proportionally less liquor at a dose of 0.3 ounce (1 1/2 tsp.) (8 ml) liquor for each 10 pounds of body weight, or 2 ml per kg body weight [e.g., 1.2 ounce (2 1/3 tbsp.) for a 40 pound child or 36 ml for an 18 kg child].

Most important symptoms and effects, both acute and delayed:
Harmful if swallowed. Suspected of damaging the unborn child. May cause damage to organs through prolonged or repeated exposure if swallowed.

Indication of any immediate medical attention and special treatment needed
Notes to physician: Maintain adequate ventilation and oxygenation of the patient. If several ounces (60 - 100 ml) of ethylene glycol have been ingested, early administration of ethanol may counter the toxic effects (metabolic acidosis, renal damage). Consider hemodialysis or peritoneal dialysis & thiamine 100 mg plus pyridoxine 50 mg intravenously every 6 hours. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol®) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol (EG), di- or triethylene glycol (DEG, TEG), ethylene glycol butyl ether (EGBE), or methanol intoxication if available. Fomepizole protocol (Brent,

J. et al., New England Journal of Medicine, Feb. 8, 2001, 344:6, p. 424-9): loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, EG, DEG, TEG or EGBE are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. If burn is present, treat as any thermal burn, after decontamination. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. 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 fog or fine spray.. Dry chemical fire extinguishers.. Carbon dioxide fire extinguishers.. Foam.. Alcohol resistant foams (ATC type) are preferred. General purpose synthetic foams (including AFFF) or protein foams may function, but will be less effective..

Unsuitable extinguishing media: Do not use direct water stream.. May spread fire..

Special hazards arising from the substance or mixture

Hazardous combustion products: During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating.. Combustion products may include and are not limited to:. Carbon monoxide.. Carbon dioxide..

Unusual Fire and Explosion Hazards: Container may rupture from gas generation in a fire situation.. Violent steam generation or eruption may occur upon application of direct water stream to hot liquids.. Liquid mist of this product can burn.. Flammable concentrations of vapor can accumulate at temperatures above flash point; see Section 9..

Advice for firefighters

Fire Fighting Procedures: Keep people away. Isolate fire and deny unnecessary entry.. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed.. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles.. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container.. Burning liquids may be extinguished by dilution with water.. Do not use direct water stream. May spread fire.. Move container from fire area if this is possible without hazard.. Burning liquids may be moved by flushing with water to protect personnel and minimize property damage..

Special protective equipment for firefighters: Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves).. Avoid contact with this material during fire fighting operations. If contact is likely, change to full chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing

with self-contained breathing apparatus and fight fire from a remote location.. For protective equipment in post-fire or non-fire clean-up situations, see Section 8 of the safety data sheet..

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.

Methods and materials for containment and cleaning up: Small spills: Absorb with materials such as: Cat litter. Sawdust. Vermiculite. Zorb-all®. Collect in suitable and properly labeled containers. Large spills: Dike area to contain spill. See Section 13, Disposal Considerations, for additional information.

7. HANDLING AND STORAGE

Precautions for safe handling: Do not swallow. Avoid contact with eyes. Wash thoroughly after handling. See Section 8, EXPOSURE CONTROLS AND PERSONAL PROTECTION.
Spills of these organic materials on hot fibrous insulations may lead to lowering of the autoignition temperatures possibly resulting in spontaneous combustion.

Conditions for safe storage: Do not store in: Galvanized steel. Opened or unlabeled containers. Store in the following material(s): Carbon steel. Stainless steel. Store in original unopened container. Store away from direct sunlight. Store in tightly closed container. Use only with adequate ventilation. See Section 10 for more specific information. Additional storage and handling information on this product may be obtained by calling your sales or customer service contact.

Storage stability

Shelf life: Use within
24 Month

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
Ethylene glycol	ACGIH	TWA Vapour	25 ppm
	Further information: A4: Not classifiable as a human carcinogen		
	ACGIH	STEL Vapour	50 ppm
	Further information: A4: Not classifiable as a human carcinogen		
	ACGIH	STEL Inhalable fraction, Aerosol only	10 mg/m3
	Further information: A4: Not classifiable as a human carcinogen		
	Dow IHG	TWA	50 mg/m3
	Dow IHG	STEL	100 mg/m3

Sodium benzoate	ACGIH	TWA Inhalable particulate matter	2.5 mg/m3
	Further information: A5: Not suspected as a human carcinogen; Skin: Danger of cutaneous absorption		
Dipotassium tetraborate	ACGIH	TWA Inhalable particulate matter	2 mg/m3 , Borate
	Further information: A4: Not classifiable as a human carcinogen		
	ACGIH	STEL Inhalable particulate matter	6 mg/m3 , Borate
	Further information: A4: Not classifiable as a human carcinogen		

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). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles. If exposure causes eye discomfort, use a full-face respirator.

Skin protection

Hand protection: Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use gloves with insulation for thermal protection, when needed. If hands are cut or scratched, use gloves chemically resistant to this material even for brief exposures. Examples of preferred glove barrier materials include: Natural rubber ("latex"). Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl chloride ("PVC" or "vinyl"). Examples of acceptable glove barrier materials include: Neoprene. 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: When prolonged or frequently repeated contact could occur, use protective clothing chemically resistant to this material. Selection of specific items such as faceshield, boots, apron, or full-body suit will depend on the task. When handling hot material, protect skin from thermal burns as well as from skin absorption.

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	Color is variable
Odor	Characteristic
Odor Threshold	No test data available
pH	7.6 - 8.2 50% *Literature*
Melting point/ range	Not applicable to liquids
Freezing point	-51 - -14 °C *Literature*
Boiling point (760 mmHg)	170 °C *Literature*
Flash point	**closed cup** 120 °C at 760 mmHg *Literature*
Evaporation Rate (Butyl Acetate = 1)	< 0.5 *Estimated.*
Flammability (solid, gas)	Not applicable to liquids
Flammability (liquids)	Not expected to be a static-accumulating flammable liquid.
Lower explosion limit	3.2 % vol Liquid. *Literature* Ethylene glycol
Upper explosion limit	*Not determined.*
Vapor Pressure	3 mbar at 20 °C *Literature*
Relative Vapor Density (air = 1)	>1 *Literature*
Relative Density (water = 1)	1.044 - 1.134 at 20 °C / 20 °C *Literature*
Water solubility	completely miscible
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	435 °C *Literature* Ethylene glycol
Decomposition temperature	No test data available
Kinematic Viscosity	10 - 30 mm2/s at 20 °C *Literature*
Explosive properties	No data available
Oxidizing properties	No data available
Molecular weight	No test data available

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

10. STABILITY AND REACTIVITY

Reactivity: No data available

Chemical stability: Thermally stable at typical use temperatures.

Possibility of hazardous reactions: Polymerization will not occur.

Conditions to avoid: Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.

Incompatible materials: Avoid contact with: Strong acids. Strong bases. Strong oxidizers.

Hazardous decomposition products: Decomposition products depend upon temperature, air supply and the presence of other materials.. Decomposition products can include and are not limited to:. Aldehydes.. Alcohols.. Ethers..

11. TOXICOLOGICAL INFORMATION

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

Information on likely routes of exposure
Ingestion, Inhalation, Skin contact, Eye contact.

Acute toxicity (represents short term exposures with immediate effects - no chronic/delayed effects known unless otherwise noted)

Acute Toxicity Endpoints:
Harmful if swallowed.

Acute oral toxicity

Information for the Product:

Oral toxicity is expected to be moderate in humans due to ethylene glycol even though tests with animals show a lower degree of toxicity. Ingestion of quantities (approximately 65 mL (2 oz.) for diethylene glycol or 100 mL (3 oz.) for ethylene glycol) has caused death in humans. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure. May cause nausea and vomiting. May cause abdominal discomfort or diarrhea.

For Ethylene glycol:
ALD - Approximate Lethal Dose, Human, adult, 100 ml
For Ethylene glycol:
LD50, Rat, 6,000 - 13,000 mg/kg

Information for components:

Ethylene glycol
In humans, expected to be moderately toxic if swallowed even though oral toxicity was low when tested in animals. Ingestion of quantities (approximately 65 mL (2 oz.) for diethylene glycol or 100 mL (3 oz.) for ethylene glycol) has caused death in humans. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. May cause nausea and vomiting. May cause abdominal discomfort or diarrhea. Excessive exposure may cause central nervous system effects, cardiopulmonary effects (metabolic acidosis), and kidney failure.

ALD - Approximate Lethal Dose, Human, adult, 100 ml Estimated.

Disodium sebacate
LD50, Rat, > 5,000 mg/kg

Sodium benzoate
LD50, Rat, male and female, 2,100 - 3,450 mg/kg Estimated.

Dipotassium tetraborate
For this family of materials: LD50, Rat, male, 3,690 mg/kg

Tolyl triazole
LD50, Rat, male and female, 720 mg/kg OECD Test Guideline 401

Acute dermal toxicity

Information for the Product:

Prolonged skin contact is unlikely to result in absorption of harmful amounts. Repeated skin exposure to large quantities may result in absorption of harmful amounts. Massive contact with damaged skin or of material sufficiently hot to burn skin may result in absorption of potentially lethal amounts.

For Ethylene glycol:
LD50, Rabbit, > 22,270 mg/kg

Information for components:

Ethylene glycol
LD50, Rabbit, > 10,600 mg/kg

LD50, Mouse, male and female, > 3,500 mg/kg

Disodium sebacate
The dermal LD50 has not been determined.

Sodium benzoate
The dermal LD50 has not been determined.

Dipotassium tetraborate
For this family of materials: LD50, Rat, male and female, > 2,000 mg/kg No deaths occurred at this concentration.

Tolyl triazole
LD50, Rabbit, > 5,000 mg/kg

Acute inhalation toxicity

Information for the Product:

At room temperature, exposure to vapor is minimal due to low volatility. With good ventilation, single exposure is not expected to cause adverse effects. If material is heated or areas are poorly ventilated, vapor/mist may accumulate and cause respiratory irritation and symptoms such as headache and nausea.

As product: The LC50 has not been determined.

Information for components:

Ethylene glycol
LC50, Rat, male and female, 6 Hour, dust/mist, > 2.5 mg/l

Disodium sebacate
The LC50 has not been determined.

Sodium benzoate
The LC50 has not been determined.

Dipotassium tetraborate
For this family of materials: LC50, Rat, male and female, 4 Hour, dust/mist, > 2.03 mg/l OECD Test Guideline 403 No deaths occurred at this concentration.

Tolyl triazole
The LC50 has not been determined.

Skin corrosion/irritation

Not classified based on available information.

Information for the Product:

Based on information for component(s):
Brief contact is essentially nonirritating to skin.
Prolonged contact may cause slight skin irritation with local redness.
Repeated contact may cause slight skin irritation with local redness.

Information for components:

Ethylene glycol
Brief contact is essentially nonirritating to skin.
Prolonged contact may cause slight skin irritation with local redness.
Repeated contact may cause skin irritation with local redness.

Disodium sebacate
Prolonged contact is essentially nonirritating to skin.

Sodium benzoate
Brief contact is essentially nonirritating to skin.

Dipotassium tetraborate
Brief contact is essentially nonirritating to skin.

Tolyl triazole
Based on product testing:
Brief contact is essentially nonirritating to skin.

Serious eye damage/eye irritation

Not classified based on available information.

Information for the Product:

Based on information for component(s):
May cause slight eye irritation.
Corneal injury is unlikely.
Vapor or mist may cause eye irritation.

Information for components:

Ethylene glycol
May cause slight eye irritation.
Corneal injury is unlikely.
Vapor or mist may cause eye irritation.

Disodium sebacate
May cause eye irritation.

Sodium benzoate
May cause severe eye irritation.
Corneal injury is unlikely.

Dipotassium tetraborate
May cause slight eye irritation.
Corneal injury is unlikely.

Tolyl triazole
Based on product testing:
May cause slight 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:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Information for components:

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

For respiratory sensitization:
No relevant data found.

Disodium sebacate
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Sodium benzoate
For skin sensitization:
Skin contact may cause an allergic skin reaction in a small proportion of individuals.

For respiratory sensitization:
No relevant data found.

Dipotassium tetraborate
For this family of materials, sensitization studies done in guinea pigs have been negative.

For respiratory sensitization:
No relevant data found.

Tolyl triazole
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:

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

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

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

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

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

Aspiration Hazard

Not classified based on available information.

Information for the Product:

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

Information for components:

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

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

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

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

Tolyl triazole
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)

May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.

Information for the Product:

Product test data not available.

Information for components:

Ethylene glycol
Observations in humans include:
Nystagmus (involuntary eye movement).
In animals, effects have been reported on the following organs:
Kidney.
Liver.

Disodium sebacate
No relevant data found.

Sodium benzoate
In animals, effects have been reported on the following organs:
Liver.

Dipotassium tetraborate
For this family of materials:
In humans, symptoms may include:
Respiratory effects.
In animals, effects have been reported on the following organs:
Blood
Testes.

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

Carcinogenicity

Not classified based on available information.

Information for the Product:

Product test data not available.

Information for components:

Ethylene glycol
Ethylene glycol did not cause cancer in long-term animal studies.

Disodium sebacate
No relevant data found.

Sodium benzoate
No relevant data found.

Dipotassium tetraborate
For this family of materials: Did not cause cancer in laboratory animals.

Tolyl triazole
No relevant data found.

Teratogenicity

Suspected of damaging the unborn child.

Information for the Product:

Product test data not available.

Information for components:

Ethylene glycol
Based on animal studies, ingestion of very large amounts of ethylene glycol appears to be the major and possibly only route of exposure to produce birth defects. Exposures by inhalation or skin contact, the primary routes of occupational exposure, had minimal effect on the fetus, in animal studies.

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

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

Dipotassium tetraborate
In laboratory animals, boron compounds have caused birth defects only at doses toxic to the mother and have been toxic to the fetus at doses nontoxic to the mother.

Tolyl triazole
Has caused birth defects in laboratory animals.

Reproductive toxicity

Suspected of damaging the unborn child.

Information for the Product:

Product test data not available.

Information for components:

Ethylene glycol
Ingestion of large amounts of ethylene glycol has been shown to interfere with reproduction in animals.

Disodium sebacate
No relevant data found.

Sodium benzoate
No relevant data found.

Dipotassium tetraborate
In animal studies, boron compounds have been shown to interfere with fertility in males, and to a lesser degree in females.

Tolyl triazole
No relevant data found.

Mutagenicity

Not classified based on available information.

Information for the Product:

Product test data not available.

Information for components:

Ethylene glycol
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Disodium sebacate
No relevant data found.

Sodium benzoate
In vitro genetic toxicity studies were negative in some cases and positive in other cases. Animal genetic toxicity studies were negative.

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

Tolyl triazole
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

12. ECOLOGICAL INFORMATION

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

Ecotoxicity

Ethylene glycol

Acute toxicity to fish
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).
LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, 72,860 mg/l

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 48 Hour, > 100 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapita, 96 Hour, Growth rate inhibition, 6,500 - 13,000 mg/l

Toxicity to bacteria
EC50, activated sludge, 30 min, 225 mg/l, OECD 209 Test

Chronic toxicity to fish
NOEC, Pimephales promelas (fathead minnow), 7 d, 15,380 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Ceriodaphnia dubia (water flea), 7 d, 8,590 mg/l

Disodium sebacate

Acute toxicity to fish
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).
LC50, Danio rerio (zebra fish), 96 Hour, > 100 mg/l

Sodium benzoate

Acute toxicity to fish
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).
LC50, Pimephales promelas (fathead minnow), static test, 96 Hour, > 100 mg/l

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), static test, 96 Hour, > 100 mg/l

Acute toxicity to algae/aquatic plants
ErC50, Pseudokirchneriella subcapitata (green algae), static test, 72 Hour, > 100 mg/l

Dipotassium tetraborate

Acute toxicity to fish
For this family of materials:
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).
For this family of materials:

LC50, dab (Limanda limanda), flow-through, 96 Hour, 523 mg/l

Acute toxicity to aquatic invertebrates
For this family of materials:
LC50, Daphnia magna (Water flea), static test, 48 Hour, 939 mg/l, OECD Test Guideline 202 or Equivalent

Tolyl triazole

Acute toxicity to fish
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).
LC50, Cyprinodon variegatus (sheepshead minnow), semi-static test, 96 Hour, 55 mg/l, OECD Test Guideline 203

Acute toxicity to aquatic invertebrates
LC50, copepod Acartia tonsa, static test, 48 Hour, 55 mg/l
For similar material(s):
EC50, Daphnia galeata (water flea), static test, 48 Hour, 8.58 mg/l
For similar material(s):
EC50, Daphnia galeata (water flea), static test, 48 Hour, 15.8 mg/l

Acute toxicity to algae/aquatic plants
EC50, Skeletonema costatum (marine diatom), static test, 72 Hour, Growth rate inhibition, 53 mg/l
NOEC, Skeletonema costatum (marine diatom), static test, 72 Hour, Growth rate inhibition, 30 mg/l
For similar material(s):
EC10, Desmodesmus subspicatus (green algae), 72 Hour, Growth rate inhibition, 2.86 mg/l
For similar material(s):
NOEC, Desmodesmus subspicatus (green algae), 72 Hour, Growth rate inhibition, 2.5 mg/l
For similar material(s):
EC10, Desmodesmus subspicatus (green algae), 72 Hour, Growth rate inhibition, 1.18 mg/l
For similar material(s):
NOEC, Desmodesmus subspicatus (green algae), 72 Hour, Growth rate inhibition, 1.2 mg/l

Chronic toxicity to aquatic invertebrates
NOEC, Daphnia magna (Water flea), semi-static test, 21 d, Reproduction, 18.4 mg/l
For similar material(s):
EC10, Daphnia galeata (water flea), 21 d, Reproduction, 0.4 mg/l
For similar material(s):
EC10, Daphnia galeata (water flea), 21 d, Reproduction, 0.97 mg/l

Persistence and degradability

Ethylene glycol

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Material has inherent, ultimate biodegradability according to OECD test (s) guidelines (reaches > 60 or 70% biodegradation in OECD test(s).
10-day Window: Pass
Biodegradation: 90 - 100 %
Exposure time: 10 d
Method: OECD Test Guideline 301A or Equivalent
10-day Window: Not applicable
Biodegradation: 90 %

Exposure time: 1 d
Method: OECD Test Guideline 302B or Equivalent

Theoretical Oxygen Demand: 1.29 mg/mg

Disodium sebacate
Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Pass
Biodegradation: 98 %
Exposure time: 7 d
Method: OECD Test Guideline 301E or Equivalent

Sodium benzoate
Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Pass
Biodegradation: > 74 %
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent

Dipotassium tetraborate
Biodegradability: Biodegradation is not applicable.

Tolyl triazole
Biodegradability: Material is expected to biodegrade very slowly (in the environment). Fails to pass OECD/EEC tests for ready biodegradability.

Biodegradation: 4 %
Exposure time: 28 d

Bioaccumulative potential

Ethylene glycol
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -1.36 Measured
Bioconcentration factor (BCF): 10 Leuciscus idus (Golden orfe)

Disodium sebacate
Partition coefficient: n-octanol/water(log Pow): -3.04

Sodium benzoate
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -2.27 Estimated.

Dipotassium tetraborate
Bioaccumulation: Partitioning from water to n-octanol is not applicable.

Tolyl triazole
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 1.71 Estimated.
Bioconcentration factor (BCF): 4.17 Estimated.

Mobility in Soil

Ethylene glycol

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient (Koc): 1 Estimated.

Sodium benzoate

No relevant data found.

Dipotassium tetraborate

No relevant data found.

Tolyl triazole

Partition coefficient (Koc): 1647 Estimated.

Results of PBT and vPvB assessment

Ethylene glycol

Not persistent, bioaccumulative, and toxic (PBT). Not very persistent and very bioaccumulative (vPvB).

Disodium sebacate

No data available

Sodium benzoate

No data available

Dipotassium tetraborate

PBT assessment does not apply

Tolyl triazole

Not persistent, bioaccumulative, and toxic (PBT). Not very persistent and very bioaccumulative (vPvB).

Other adverse effects

Ethylene glycol

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

Disodium sebacate

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

Sodium benzoate

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

Dipotassium tetraborate

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

Tolyl triazole

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 of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN SDS SECTION 1: Identified Uses. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: 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

This product has been classified in accordance with the criteria of the Globally Harmonized System of Classification and Labellingof Chemicals (GHS), rev. 9.

16. OTHER INFORMATION

Revision
Identification Number: 99194265 / A146 / Issue Date: 22.07.2025 / Version: 9.0

In case this version of the SDS contains significant changes from the previous version, they are listed below or noted by bold, double bars in the left-hand margin throughout this document.
Changes encompass identification, hazards, tox/eco-tox information and the addition/removal of the ingredients, and regulatory information, hazard information, uses, risk management measures and other key regulatory changes of the product. Detailed explanation of the changes can be obtained upon request.

Legend

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
Dow IHG	Dow Industrial Hygiene Guideline
STEL	Short term exposure limit
TWA	Time weighted average

Full text of other abbreviations
AIIC - 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 Harmonised 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 Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardisation; 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; MERCOSUR - The Agreement for the Facilitation of the Transport of Dangerous Goods; 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 - Organisation 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 INTERNATIONAL PVT. 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 informationherein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express orimplied, 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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