



SAFETY DATA SHEET

DOW CHEMICAL COMPANY LIMITED

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

Product name: DOWSIL™ 791 Weatherproof Sealant

Revision Date: 10.01.2018

Version: 1.7

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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™ 791 Weatherproof Sealant

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Construction materials and additives

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:

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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.

Precautionary statements

P271 Use only outdoors or in a well-ventilated area.

Supplemental information

EUH210 Safety data sheet available on request.

EUH208 Contains: Methyltrimethoxysilane; N-(3-(Trimethoxysilyl) propyl)-1,2-ethanediamine.
May produce an allergic reaction.**2.3 Other hazards**

No data available

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS**Chemical nature:** Silicone elastomer**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 1309-37-1 EC-No. 215-168-2 Index-No. - | - | <= 4.2 % | Iron oxide (Fe ₂ O ₃) | Not classified |
| CASRN 1328-53-6 EC-No. 215-524-7 Index-No. - | 01-2119459333-39 | <= 3.15 % | C.I. Pigment Green 7 | Not classified |
| CASRN 20344-49-4 EC-No. 243-746-4 Index-No. - | - | <= 2.8 % | Iron hydroxide oxide | Not classified |

| | | | | |
|---|---|-----------|--|----------------|
| CASRN 1317-61-9 EC-No. 215-277-5 Index-No. – | – | <= 2.73 % | Iron oxide (Fe ₃ O ₄) | Not classified |
| CASRN 51274-00-1 EC-No. 257-098-5 Index-No. – | – | <= 2.31 % | C.I. Pigment Yellow 42 | Not classified |
| CASRN 12001-26-2 EC-No. 310-127-6 Index-No. – | – | <= 1.82 % | Mica muscovite | Not classified |
| CASRN 7727-43-7 EC-No. 231-784-4 Index-No. – | – | <= 1.12 % | Barium sulfate | Not classified |

SECTION 4: FIRST AID MEASURES

4.1 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; 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: Metal fume fever symptoms of headache, nausea, chills, cough and fever may be accompanied by leukocytosis, and typically resolve in 24 - 48hr. Treatment includes antipyretics, hydration, oxygen, bronchodilators, and rest. 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: None known.

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products: Carbon oxides Silicon oxides Metal oxides Formaldehyde Cobalt compounds Nitrogen oxides (NO_x) Chlorine compounds Fluorine compounds Sulphur oxides

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

5.3 Advice for firefighters

Fire Fighting Procedures: Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

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

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. 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. 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: Soak up with inert absorbent material. 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, Clean up remaining materials from spill with suitable absorbent. 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: Do not get on skin or clothing. Do not swallow. Avoid contact with eyes. Take care to prevent spills, waste and minimize release to the environment. Handle in accordance with good industrial hygiene and safety practice.

Use only with adequate ventilation. See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.

7.2 Conditions for safe storage, including any incompatibilities: Keep in properly labelled containers. Store in accordance with the particular national regulations.

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

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 |
|--|------------|-------------------------|------------------------------|
| Iron oxide (Fe ₂ O ₃) | ACGIH | TWA Respirable fraction | 5 mg/m ³ |
| | GB EH40 | TWA inhalable dust | 10 mg/m ³ |
| | GB EH40 | TWA Respirable dust | 4 mg/m ³ |
| C.I. Pigment Green 7 | GB EH40 | TWA Dusts and mists | 1 mg/m ³ , Copper |
| | GB EH40 | STEL Dusts and mists | 2 mg/m ³ , Copper |
| Iron hydroxide oxide | GB EH40 | TWA Fumes | 5 mg/m ³ , Iron |
| | GB EH40 | STEL Fumes | 10 mg/m ³ , Iron |
| Iron oxide (Fe ₃ O ₄) | GB EH40 | TWA Fumes | 5 mg/m ³ , Iron |
| | GB EH40 | STEL Fumes | 10 mg/m ³ , Iron |
| C.I. Pigment Yellow 42 | GB EH40 | TWA Fumes | 5 mg/m ³ , Iron |
| | GB EH40 | STEL Fumes | 10 mg/m ³ , Iron |
| Mica muscovite | ACGIH | TWA Respirable fraction | 3 mg/m ³ |
| | GB EH40 | TWA Inhalable | 10 mg/m ³ |
| | GB EH40 | TWA Respirable | 0.8 mg/m ³ |
| Barium sulfate | ACGIH | TWA Inhalable fraction | 5 mg/m ³ |
| | GB EH40 | TWA Inhalable | 10 mg/m ³ |
| | GB EH40 | TWA Respirable | 4 mg/m ³ |

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

Derived No Effect Level

Iron oxide (Fe₂O₃)

Workers

| <i>Acute systemic effects</i> | | <i>Acute local effects</i> | | <i>Long-term systemic effects</i> | | <i>Long-term local effects</i> | |
|-------------------------------|------------|----------------------------|------------|-----------------------------------|----------------------|--------------------------------|----------------------|
| Dermal | Inhalation | Dermal | Inhalation | Dermal | Inhalation | Dermal | Inhalation |
| n.a. | n.a. | n.a. | n.a. | n.a. | 10 mg/m ³ | n.a. | 10 mg/m ³ |

Consumers

| <i>Acute systemic effects</i> | | | <i>Acute local effects</i> | | <i>Long-term systemic effects</i> | | | <i>Long-term local effects</i> | |
|-------------------------------|------------|------|----------------------------|------------|-----------------------------------|------------|------|--------------------------------|------------|
| Dermal | Inhalation | Oral | Dermal | Inhalation | Dermal | Inhalation | Oral | Dermal | Inhalation |
| n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |

C.I. Pigment Green 7

Workers

| <i>Acute systemic effects</i> | | <i>Acute local effects</i> | | <i>Long-term systemic effects</i> | | <i>Long-term local effects</i> | |
|-------------------------------|------------|----------------------------|------------|-----------------------------------|---------------------|--------------------------------|------------|
| Dermal | Inhalation | Dermal | Inhalation | Dermal | Inhalation | Dermal | Inhalation |
| n.a. | n.a. | n.a. | n.a. | 450 mg/kg bw/day | 4 mg/m ³ | n.a. | n.a. |

Consumers

| <i>Acute systemic effects</i> | | | <i>Acute local effects</i> | | <i>Long-term systemic effects</i> | | | <i>Long-term local effects</i> | |
|-------------------------------|------------|------|----------------------------|------------|-----------------------------------|------------|-----------------|--------------------------------|------------|
| Dermal | Inhalation | Oral | Dermal | Inhalation | Dermal | Inhalation | Oral | Dermal | Inhalation |
| n.a. | n.a. | n.a. | n.a. | n.a. | 225 mg/kg bw/day | n.a. | 45 mg/kg bw/day | n.a. | n.a. |

Iron hydroxide oxide

Workers

| <i>Acute systemic effects</i> | | <i>Acute local effects</i> | | <i>Long-term systemic effects</i> | | <i>Long-term local effects</i> | |
|-------------------------------|------------|----------------------------|------------|-----------------------------------|----------------------|--------------------------------|----------------------|
| Dermal | Inhalation | Dermal | Inhalation | Dermal | Inhalation | Dermal | Inhalation |
| n.a. | n.a. | n.a. | n.a. | n.a. | 10 mg/m ³ | n.a. | 10 mg/m ³ |

Consumers

| <i>Acute systemic effects</i> | | | <i>Acute local effects</i> | | <i>Long-term systemic effects</i> | | | <i>Long-term local effects</i> | |
|-------------------------------|------------|------|----------------------------|------------|-----------------------------------|------------|------|--------------------------------|------------|
| Dermal | Inhalation | Oral | Dermal | Inhalation | Dermal | Inhalation | Oral | Dermal | Inhalation |
| n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |

Iron oxide (Fe₃O₄)

Workers

| <i>Acute systemic effects</i> | | <i>Acute local effects</i> | | <i>Long-term systemic</i> | | <i>Long-term local effects</i> | |
|-------------------------------|--|----------------------------|--|---------------------------|--|--------------------------------|--|
|-------------------------------|--|----------------------------|--|---------------------------|--|--------------------------------|--|

| | | | | effects | | | |
|--------|------------|--------|------------|----------------|------------|--------|------------|
| Dermal | Inhalation | Dermal | Inhalation | Dermal | Inhalation | Dermal | Inhalation |
| n.a. | n.a. | n.a. | n.a. | n.a. | 10 mg/m3 | n.a. | 10 mg/m3 |

Consumers

| Acute systemic effects | | | Acute local effects | | Long-term systemic effects | | | Long-term local effects | |
|-------------------------------|------------|------|----------------------------|------------|-----------------------------------|------------|------|--------------------------------|------------|
| Dermal | Inhalation | Oral | Dermal | Inhalation | Dermal | Inhalation | Oral | Dermal | Inhalation |
| n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |

C.I. Pigment Yellow 42

Workers

| Acute systemic effects | | Acute local effects | | Long-term systemic effects | | Long-term local effects | |
|-------------------------------|------------|----------------------------|------------|-----------------------------------|------------|--------------------------------|------------|
| Dermal | Inhalation | Dermal | Inhalation | Dermal | Inhalation | Dermal | Inhalation |
| n.a. | n.a. | n.a. | n.a. | n.a. | 10 mg/m3 | n.a. | 10 mg/m3 |

Consumers

| Acute systemic effects | | | Acute local effects | | Long-term systemic effects | | | Long-term local effects | |
|-------------------------------|------------|------|----------------------------|------------|-----------------------------------|------------|------|--------------------------------|------------|
| Dermal | Inhalation | Oral | Dermal | Inhalation | Dermal | Inhalation | Oral | Dermal | Inhalation |
| n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | n.a. |

Barium sulfate

Workers

| Acute systemic effects | | Acute local effects | | Long-term systemic effects | | Long-term local effects | |
|-------------------------------|------------|----------------------------|------------|-----------------------------------|------------|--------------------------------|------------|
| Dermal | Inhalation | Dermal | Inhalation | Dermal | Inhalation | Dermal | Inhalation |
| n.a. | n.a. | n.a. | n.a. | n.a. | 10 mg/m3 | n.a. | 10 mg/m3 |

Consumers

| Acute systemic effects | | | Acute local effects | | Long-term systemic effects | | | Long-term local effects | |
|-------------------------------|------------|------|----------------------------|------------|-----------------------------------|------------|--------------------|--------------------------------|------------|
| Dermal | Inhalation | Oral | Dermal | Inhalation | Dermal | Inhalation | Oral | Dermal | Inhalation |
| n.a. | n.a. | n.a. | n.a. | n.a. | n.a. | 10 mg/m3 | 13000 mg/kg bw/day | n.a. | n.a. |

Predicted No Effect Concentration

C.I. Pigment Green 7

| Compartment | PNEC |
|----------------------|-------------|
| Fresh water sediment | 10 mg/kg |
| Marine sediment | 1 mg/kg |
| Soil | 1 mg/kg |

Barium sulfate

| Compartment | PNEC |
|--------------------|-------------|
| Fresh water | 227.8 mg/l |

| | |
|------------------------|-------------|
| Sewage treatment plant | 50.1 mg/l |
| Soil | 707.7 mg/kg |
| Fresh water sediment | 792.7 mg/kg |

8.2 Exposure controls

Engineering controls: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. 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 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 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, 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: 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, use an approved respirator. Selection of air-purifying or positive-pressure supplied-air will depend on the specific operation and the potential airborne concentration of the material.

Use the following CE approved air-purifying respirator: Organic vapor cartridge with a particulate pre-filter, type AP2.

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 | paste |
| Color | in accordance with the product description |
| Odor | none |
| Odor Threshold | No data available |
| pH | Not applicable |
| Melting point/range | No data available |
| Freezing point | No data available |
| Boiling point (760 mmHg) | Not applicable |
| Flash point | closed cup 70 °C |
| Evaporation Rate (Butyl Acetate = 1) | Not applicable |
| Flammability (solid, gas) | Not classified as a flammability hazard |
| Lower explosion limit | No data available |
| Upper explosion limit | No data available |
| Vapor Pressure | Not applicable |
| Relative Vapor Density (air = 1) | No data available |
| Relative Density (water = 1) | 1.52 |
| Water solubility | No data available |
| Partition coefficient: n-octanol/water | No data available |
| Auto-ignition temperature | No data available |
| Decomposition temperature | No data available |
| Dynamic Viscosity | Not applicable |
| Kinematic Viscosity | Not applicable |
| Explosive properties | Not explosive |
| Oxidizing properties | The substance or mixture is not classified as oxidizing. |

9.2 Other information

| | |
|------------------|-------------------|
| Molecular weight | No data available |
| Particle size | No data available |

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

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. Vapours may form explosive mixture with air.

10.4 Conditions to avoid: None known.

10.5 Incompatible materials: Oxidizing agents

10.6 Hazardous decomposition products: 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

Brief exposure (minutes) is not likely to cause adverse effects. Vapor from heated material may cause respiratory irritation. Exposure to metal oxide fumes may cause metal fume fever, characterized by influenza-like symptoms.

As product: The LC50 has not been determined.

Skin corrosion/irritation

Prolonged contact may cause slight skin irritation with local redness.

Serious eye damage/eye irritation

May cause slight temporary eye irritation.

Corneal injury is unlikely.
May cause mild eye discomfort.

Sensitization

For the major component(s):
Did not demonstrate the potential for contact allergy in mice.
Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant information found.

Specific Target Organ Systemic Toxicity (Single Exposure)

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

Specific Target Organ Systemic Toxicity (Repeated Exposure)

For this family of materials:
Based on available data, repeated exposures are not anticipated to cause significant adverse effects.
Contains an additional component(s) that is/are encapsulated in the product and are not expected to be released under normal processing conditions or foreseeable emergency.

Carcinogenicity

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

Teratogenicity

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

Reproductive toxicity

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

Mutagenicity

Contains component(s) which were negative in some in vitro genetic toxicity studies and positive in others.

Aspiration Hazard

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

COMPONENTS INFLUENCING TOXICOLOGY:

Iron oxide (Fe₂O₃)

Acute inhalation toxicity

Vapors are unlikely due to physical properties. Dust may cause irritation to upper respiratory tract (nose and throat). Exposure to metal oxide fumes may cause metal fume fever, characterized by influenza-like symptoms.

As product: The LC50 has not been determined.

C.I. Pigment Green 7

Acute inhalation toxicity

The LC50 has not been determined.

Iron hydroxide oxide**Acute inhalation toxicity**

Dust may cause irritation to upper respiratory tract (nose and throat). Prolonged excessive exposure to dust may cause adverse effects.

The LC50 has not been determined.

Iron oxide (Fe3O4)**Acute inhalation toxicity**

The LC50 has not been determined.

C.I. Pigment Yellow 42**Acute inhalation toxicity**

The LC50 has not been determined.

Mica muscovite**Acute inhalation toxicity**

The LC50 has not been determined.

Barium sulfate**Acute inhalation toxicity**

No adverse effects are anticipated from single exposure to dust. For respiratory irritation and narcotic effects: No relevant data found.

The LC50 has not been determined.

SECTION 12: ECOLOGICAL INFORMATION

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

12.1 Toxicity**Iron oxide (Fe2O3)****Acute toxicity to fish**

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50, Danio rerio (zebra fish), static test, 96 Hour, > 50,000 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), static test, 48 Hour, > 100 mg/l, OECD Test Guideline 202

Toxicity to bacteria

EC50, Pseudomonas fluorescens, 24 Hour, >5,000 mg/l

EC50, activated sludge, static test, 3 Hour, Respiration rates., > 10,000 mg/l, ISO 8192

C.I. Pigment Green 7**Acute toxicity to fish**

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 356 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), Static, 48 Hour, > 500 mg/l, Directive 84/449/EEC, C.2

Acute toxicity to algae/aquatic plants

EC50, Desmodesmus subspicatus (green algae), Static, 72 Hour, > 100 mg/l, OECD Test Guideline 201

Chronic toxicity to aquatic invertebrates

NOEC, Daphnia magna, semi-static test, 21 d, Immobilization, > 1 mg/l

Iron hydroxide oxide

Acute toxicity to fish

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50, Leuciscus idus (Golden orfe), static test, 96 Hour, > 500 mg/l

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202

Iron oxide (Fe3O4)

Acute toxicity to fish

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50, Leuciscus idus (Golden orfe), static test, 48 Hour, > 1,000 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates

LL50, Daphnia magna (Water flea), 48 Hour, > 10,000 mg/l

Toxicity to bacteria

EC50, 3 Hour, > 10,000 mg/l, OECD Test Guideline 209

C.I. Pigment Yellow 42

Acute toxicity to fish

Not expected to be acutely toxic to aquatic organisms.

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

Acute toxicity to aquatic invertebrates

EC50, Daphnia magna (Water flea), 48 Hour, > 100 mg/l, OECD Test Guideline 202

Mica muscovite

Acute toxicity to fish

Not expected to be acutely toxic to aquatic organisms.

Barium sulfate

Acute toxicity to fish

Based on information for a similar material:

Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

Acute toxicity to aquatic invertebrates

No toxicity at the limit of solubility

Based on data from similar materials

EC50, Daphnia magna (Water flea), 48 Hour, > 4 mg/l

Acute toxicity to algae/aquatic plants

Based on data from similar materials

NOEC, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201

Based on data from similar materials

EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, > 100 mg/l, OECD Test Guideline 201

Toxicity to bacteria

Based on data from similar materials

EC50, 3 Hour, > 1,000 mg/l, OECD Test Guideline 209

Chronic toxicity to aquatic invertebrates

Based on data from similar materials

NOEC, Daphnia magna (Water flea), 21 d, 2.9 mg/l

12.2 Persistence and degradability

Iron oxide (Fe2O3)

Biodegradability: Biodegradation is not applicable.

C.I. Pigment Green 7

Biodegradability: Material is not readily biodegradable according to OECD/EEC guidelines.

10-day Window: Fail

Biodegradation: 5 %

Exposure time: 28 d

Method: OECD Test Guideline 301C

Iron hydroxide oxide

Biodegradability: Biodegradation is not applicable.

Iron oxide (Fe3O4)

Biodegradability: Biodegradation is not applicable.

C.I. Pigment Yellow 42

Biodegradability: Biodegradation is not applicable.

Mica muscovite

Biodegradability: Biodegradation is not applicable.

Barium sulfate

Biodegradability: Biodegradation is not applicable.

12.3 Bioaccumulative potential

Iron oxide (Fe₂O₃)

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

C.I. Pigment Green 7

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Bioconcentration factor (BCF): 0.51 - 74 Fish 42 d

Iron hydroxide oxide

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

Iron oxide (Fe₃O₄)

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

C.I. Pigment Yellow 42

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

Mica muscovite

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

Barium sulfate

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

12.4 Mobility in soil

Iron oxide (Fe₂O₃)

No relevant data found.

C.I. Pigment Green 7

No relevant data found.

Iron hydroxide oxide

No relevant data found.

Iron oxide (Fe₃O₄)

No relevant data found.

C.I. Pigment Yellow 42

No relevant data found.

Mica muscovite

No data available.

Barium sulfate

No relevant data found.

12.5 Results of PBT and vPvB assessment

C.I. Pigment Green 7

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

Iron hydroxide oxide

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).

Iron oxide (Fe₃O₄)

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

C.I. Pigment Yellow 42

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

Mica muscovite

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

Barium sulfate

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

12.6 Other adverse effects

Iron oxide (Fe₂O₃)

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

C.I. Pigment Green 7

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

Iron hydroxide oxide

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

Iron oxide (Fe₃O₄)

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

C.I. Pigment Yellow 42

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

Mica muscovite

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

Barium sulfate

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

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 pre-registered, registered, are exempt from registration, are regarded as registered or are not subject to 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

| | |
|---------|--|
| ACGIH | USA. ACGIH Threshold Limit Values (TLV) |
| GB EH40 | UK. EH40 WEL - Workplace Exposure Limits |
| STEL | Short-term exposure limit (15-minute reference period) |
| 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; 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.

GB

