



Safety Data Sheet

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This Safety Data Sheet has been prepared in accordance with the Malaysia Occupational Safety and Health (Chemical Classification, Labelling and Safety Data Sheets) Regulations 2013.

SECTION 1: Identification

1.1. Product identifier

3M™ Blue Cream Hardener 05766

Product Identification Numbers

60-9800-3723-2

1.2. Recommended use and restrictions on use

Recommended use

Automotive

For Industrial or Professional use only

1.3. Supplier's details

ADDRESS: 3M Malaysia Sdn. Bhd., Level 8, Block F, Oasis Square, No.2, Jalan PJU 1A/7A, Ara Damansara 47301
Petaling, Jaya, Selangor
Telephone: 03-7884 2888
E Mail: 3mmyehsr@mmm.com
Website: www.3M.com.my

1.4. Emergency telephone number

+60 03-7884 2888

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Organic Peroxide: Type E&F.
Serious Eye Damage/Irritation: Category 2.
Skin Sensitizer: Category 1.
Specific Target Organ Toxicity (single exposure): Category 1.
Acute Aquatic Toxicity: Category 1.
Chronic Aquatic Toxicity: Category 1.

2.2. Label elements

Signal word

Danger

Symbols

Flame | Exclamation mark | Health Hazard | Environment |

Pictograms



Hazard Statements:

- H242 Heating may cause a fire.
- H319 Causes serious eye irritation.
- H317 May cause an allergic skin reaction.
- H370 Causes damage to organs: cardiovascular system | kidney/urinary tract | nervous system | respiratory system.
- H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements

General:

- P101 If medical advice is needed, have product container or label at hand.
- P102 Keep out of reach of children.

Prevention:

- P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P234 Keep only in original packaging.
- P260 Do not breathe dust/fume/gas/mist/vapors/spray.
- P273 Avoid release to the environment.
- P280B Wear protective gloves and eye/face protection.

Response:

- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P307+ P311 IF exposed: Call a POISON CENTER or doctor/physician.
- P321 Specific treatment (see Notes to Physician on this label).
- P333 + P313 If skin irritation or rash occurs: Get medical advice/attention.

Storage:

- P411 + P235 Store at temperatures not exceeding 32 °C. Keep cool.

Disposal:

- P501 Dispose of contents/container in accordance with applicable local/regional/national/international regulations.

Notes to Physician:

This product contains ethylene glycol. If there is reasonable suspicion of ethylene glycol poisoning, intravenous (IV) administration with either fomepizole (preferred) or ethanol (if fomepizole is unavailable) should be considered as part of the medical management

2.3. Other hazards

None known

SECTION 3: Composition/information on ingredients

This material is a mixture.

| Ingredient | C.A.S. No. | % by Wt |
|--|-------------|---------|
| Benzoyl Peroxide | 94-36-0 | 30 - 60 |
| Benzoic Acid, C9-11-Branched Alkyl Esters | 131298-44-7 | 10 - 30 |
| Water | 7732-18-5 | 10 - 30 |
| Ethylene Glycol | 107-21-1 | <= 10 |
| Zinc Stearate | 557-05-1 | 1 - 10 |
| Calcium Sulfate | 7778-18-9 | 1 - 5 |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | 9038-95-3 | <= 5 |
| Ferric Ammonium Ferrocyanide | 25869-00-5 | <= 1 |
| Ferric Ferrocyanide | 14038-43-8 | <= 1 |

SECTION 4: First aid measures**4.1. Description of first aid measures****Inhalation:**

Remove person to fresh air. If you feel unwell, get medical attention.

Skin Contact:

Immediately wash with soap and water. Remove contaminated clothing and wash before reuse. If signs/symptoms develop, get medical attention.

Eye Contact:

Immediately flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. Get medical attention.

If Swallowed:

Rinse mouth. If you feel unwell, get medical attention.

4.2. Most important symptoms and effects, both acute and delayed

Allergic skin reaction (redness, swelling, blistering, and itching). Target organ effects. See Section 11 for additional details.

4.3. Indication of any immediate medical attention and special treatment required

This product contains ethylene glycol. If there is reasonable suspicion of ethylene glycol poisoning, intravenous (IV) administration with either fomepizole (preferred) or ethanol (if fomepizole is unavailable) should be considered as part of the medical management.

SECTION 5: Fire-fighting measures**5.1. Suitable extinguishing media**

In case of fire: Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

5.2. Special hazards arising from the substance or mixture

Closed containers exposed to heat from fire may build pressure and explode. Part of the oxygen for combustion is supplied by the peroxide itself.

Hazardous Decomposition or By-Products**Substance**

Carbon monoxide
Carbon dioxide
Toxic Vapor, Gas, Particulate

Condition

During Combustion
During Combustion
During Combustion

5.3. Special protective actions for fire-fighters

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures**

Evacuate area. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Use only non-sparking tools. Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.

6.2. Environmental precautions

Avoid release to the environment. For larger spills, cover drains and build dikes to prevent entry into sewer systems or bodies of water.

6.3. Methods and material for containment and cleaning up

Collect as much of the spilled material as possible using non-sparking tools. Place in a closed container approved for transportation by appropriate authorities. Clean up residue. Seal the container. Dispose of collected material as soon as possible in accordance with applicable local/regional/national/international regulations.

SECTION 7: Handling and storage**7.1. Precautions for safe handling**

Keep out of reach of children. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not breathe dust/fume/gas/mist/vapors/spray. Do not get in eyes, on skin, or on clothing. Do not eat, drink or smoke when using this product. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wash contaminated clothing before reuse.

7.2. Conditions for safe storage including any incompatibilities

Protect from sunlight. Store at temperatures not exceeding 32C/90F. Keep cool. Keep only in original container. Store away from other materials. Keep/store away from clothing and other combustible materials.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Occupational exposure limits**

If a component is disclosed in section 3 but does not appear in the table below, an occupational exposure limit is not available for the component.

| Ingredient | C.A.S. No. | Agency | Limit type | Additional Comments |
|-------------------------|------------|---------------|--|--------------------------------|
| Ethylene Glycol | 107-21-1 | ACGIH | TWA(Vapor fraction):25 ppm;STEL(Vapor fraction):50 ppm;STEL(Inhalable aerosol):10 mg/m ³ | A4: Not class. as human carcin |
| Ethylene Glycol | 107-21-1 | Malaysia OELs | CEIL(as aerosol):100 mg/m ³ (39.4 ppm) | |
| DUST, INERT OR NUISANCE | 557-05-1 | Malaysia OELs | TWA (proposed)(respirable particles)(8 hours):3 mg/m ³ ;TWA (proposed)(Inhalable particulate)(8 hours):10 mg/m ³ | |

| | | | | |
|------------------|-----------|---------------|----------------------------------|--------------------------------|
| Calcium Sulfate | 7778-18-9 | ACGIH | TWA(inhalable fraction):10 mg/m3 | |
| Calcium Sulfate | 7778-18-9 | Malaysia OELs | TWA (proposed)(8 hours):10 mg/m3 | |
| Benzoyl Peroxide | 94-36-0 | ACGIH | TWA:5 mg/m3 | A4: Not class. as human carcin |
| Benzoyl Peroxide | 94-36-0 | Malaysia OELs | TWA(8 hours):5 mg/m3 | |

ACGIH : American Conference of Governmental Industrial Hygienists

CMRG : Chemical Manufacturer's Recommended Guidelines

Malaysia OELs : Malaysia. Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations

TWA: Time-Weighted-Average

STEL: Short Term Exposure Limit

CEIL: Ceiling

8.2. Exposure controls

8.2.1. Engineering controls

Use general dilution ventilation and/or local exhaust ventilation to control airborne exposures to below relevant Exposure Limits and/or control dust/fume/gas/mist/vapors/spray. If ventilation is not adequate, use respiratory protection equipment.

8.2.2. Personal protective equipment (PPE)

Eye/face protection

Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended:

Indirect Vented Goggles

Skin/hand protection

Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Note: Nitrile gloves may be worn over polymer laminate gloves to improve dexterity.

Gloves made from the following material(s) are recommended: Polymer laminate

If this product is used in a manner that presents a higher potential for exposure (eg. spraying, high splash potential etc.), then use of protective coveralls may be necessary. Select and use body protection to prevent contact based on the results of an exposure assessment. The following protective clothing material(s) are recommended: Apron - polymer laminate

Respiratory protection

An exposure assessment may be needed to decide if a respirator is required. If a respirator is needed, use respirators as part of a full respiratory protection program. Based on the results of the exposure assessment, select from the following respirator type(s) to reduce inhalation exposure:

Half facepiece or full facepiece air-purifying respirator suitable for organic vapors and particulates

For questions about suitability for a specific application, consult with your respirator manufacturer.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|-------------------------|-------|
| Physical state | Solid |
| Specific Physical Form: | Paste |
| Color | Blue |

| | |
|--|--|
| Odor | Slight Ester |
| Odor threshold | <i>No Data Available</i> |
| pH | <i>No Data Available</i> |
| Melting point/Freezing point | <i>No Data Available</i> |
| Boiling point/Initial boiling point/Boiling range | <i>Not Applicable</i> |
| Flash Point | 111 °C [<i>Test Method: Estimated</i>] |
| Evaporation rate | <i>No Data Available</i> |
| Flammability (solid, gas) | Organic Peroxide: Type E. |
| Flammable Limits(LEL) | <i>Not Applicable</i> |
| Flammable Limits(UEL) | <i>Not Applicable</i> |
| Vapor Pressure | <i>No Data Available</i> |
| Vapor Density and/or Relative Vapor Density | <i>No Data Available</i> |
| Density | 1.2 g/ml |
| Relative Density | 1.2 [Ref Std: WATER=1] [<i>Details: @ 25 C</i>] |
| Water solubility | Negligible |
| Solubility- non-water | <i>No Data Available</i> |
| Partition coefficient: n-octanol/ water | <i>No Data Available</i> |
| Autoignition temperature | 410 °C [<i>Test Method: Estimated</i>] |
| Decomposition temperature | <i>No Data Available</i> |
| Viscosity/Kinematic Viscosity | 70,000 mPa-s - 150,000 mPa-s |
| Volatile Organic Compounds | 0 % weight [<i>Test Method: calculated per CARB title 2</i>] |
| Volatile Organic Compounds | 0 - 120 g/l [<i>Test Method: calculated SCAQMD rule 443.1</i>] |
| Percent volatile | 21 - 31 % weight |
| VOC Less H2O & Exempt Solvents | 0 - 161 g/l [<i>Test Method: calculated SCAQMD rule 443.1</i>] |
| Molecular weight | <i>No Data Available</i> |

Nanoparticles

This material does not contain nanoparticles.

SECTION 10: Stability and reactivity**10.1. Reactivity**

This material may be reactive with certain agents under certain conditions - see the remaining headings in this section.

10.2. Chemical stability

Stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

Accelerators

10.6. Hazardous decomposition products**Substance****Condition**

None known.

Refer to section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. In addition, toxicological data on ingredients may not be reflected in the material classification and/or the signs and symptoms of exposure, because an ingredient may be present below the threshold for labeling, an ingredient may not be available for exposure, or the data may not be relevant to the material as a whole.

11.1. Information on Toxicological effects

Signs and Symptoms of Exposure

Based on test data and/or information on the components, this material may produce the following health effects:

Inhalation:

Respiratory Tract Irritation: Signs/symptoms may include cough, sneezing, nasal discharge, headache, hoarseness, and nose and throat pain.

Skin Contact:

May be harmful in contact with skin.

Contact with the skin during product use is not expected to result in significant irritation. Allergic Skin Reaction (non-photo induced): Signs/symptoms may include redness, swelling, blistering, and itching.

Eye Contact:

Severe Eye Irritation: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion:

Gastrointestinal Irritation: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

May cause additional health effects (see below).

Additional Health Effects:

Single exposure may cause target organ effects:

Cardiac Effects: Signs/symptoms may include irregular heartbeat (arrhythmia), changes in heart rate, damage to heart muscle, heart attack, and may be fatal.

Neurological Effects: Signs/symptoms may include personality changes, lack of coordination, sensory loss, tingling or numbness of the extremities, weakness, tremors, and/or changes in blood pressure and heart rate.

Respiratory Effects: Signs/symptoms may include cough, shortness of breath, chest tightness, wheezing, increased heart rate, bluish colored skin (cyanosis), sputum production, changes in lung function tests, and/or respiratory failure.

Kidney/Bladder Effects: Signs/symptoms may include changes in urine production, abdominal or lower back pain, increased protein in urine, increased blood urea nitrogen (BUN), blood in urine, and painful urination.

Toxicological Data

If a component is disclosed in section 3 but does not appear in a table below, either no data are available for that endpoint or the data are not sufficient for classification.

Acute Toxicity

| Name | Route | Species | Value |
|-----------------|-------------------------|---------|---|
| Overall product | Dermal | | No data available; calculated ATE >2,000 - ≤5,000 mg/kg |
| Overall product | Inhalation-Dust/Mist(4) | | No data available; calculated ATE >12.5 mg/l |

| | | | |
|--|--------------------------------|------------------------|--|
| | hr) | | |
| Overall product | Ingestion | | No data available; calculated ATE >5,000 mg/kg |
| Benzoyl Peroxide | Dermal | | LD50 estimated to be 2,000 - 5,000 mg/kg |
| Benzoyl Peroxide | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 24.3 mg/l |
| Benzoyl Peroxide | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Benzoic Acid, C9-11-Branched Alkyl Esters | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| Benzoic Acid, C9-11-Branched Alkyl Esters | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 5 mg/l |
| Benzoic Acid, C9-11-Branched Alkyl Esters | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Ethylene Glycol | Ingestion | Human | LD50 1,600 mg/kg |
| Ethylene Glycol | Inhalation-Dust/Mist (4 hours) | Other | LC50 estimated to be 5 - 12.5 mg/l |
| Ethylene Glycol | Dermal | Rabbit | 9,530 mg/kg |
| Zinc Stearate | Dermal | Rabbit | LD50 > 2,000 mg/kg |
| Zinc Stearate | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 50 mg/l |
| Zinc Stearate | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Calcium Sulfate | Dermal | Professional judgement | LD50 estimated to be > 5,000 mg/kg |
| Calcium Sulfate | Ingestion | Rat | LD50 > 5,000 mg/kg |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Dermal | Rabbit | LD50 > 16,960 mg/kg |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Inhalation-Dust/Mist (4 hours) | Rat | LC50 > 5 mg/l |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Ingestion | Rat | LD50 4,240 mg/kg |
| Ferric Ammonium Ferrocyanide | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Ferric Ferrocyanide | Dermal | | LD50 estimated to be > 5,000 mg/kg |
| Ferric Ammonium Ferrocyanide | Ingestion | Rat | LD50 > 5,110 mg/kg |
| Ferric Ferrocyanide | Ingestion | Rat | LD50 > 8,000 mg/kg |

ATE = acute toxicity estimate

Skin Corrosion/Irritation

| Name | Species | Value |
|--|---------|---------------------------|
| Benzoyl Peroxide | Rabbit | Minimal irritation |
| Ethylene Glycol | Rabbit | Minimal irritation |
| Zinc Stearate | Rabbit | No significant irritation |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Rabbit | Minimal irritation |

Serious Eye Damage/Irritation

| Name | Species | Value |
|--|---------|---------------------------|
| Benzoyl Peroxide | Rabbit | Severe irritant |
| Ethylene Glycol | Rabbit | Mild irritant |
| Zinc Stearate | Rabbit | No significant irritation |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Rabbit | No significant irritation |

Sensitization:

Skin Sensitization

| Name | Species | Value |
|------------------|------------|----------------|
| Benzoyl Peroxide | Guinea pig | Sensitizing |
| Ethylene Glycol | Human | Not classified |

Respiratory Sensitization

For the component/components, either no data are currently available or the data are not sufficient for classification.

Germ Cell Mutagenicity

| Name | Route | Value |
|------------------|----------|---------------|
| Benzoyl Peroxide | In Vitro | Not mutagenic |
| Benzoyl Peroxide | In vivo | Not mutagenic |
| Ethylene Glycol | In Vitro | Not mutagenic |
| Ethylene Glycol | In vivo | Not mutagenic |

Carcinogenicity

| Name | Route | Species | Value |
|--|-----------|-------------------------|--|
| Benzoyl Peroxide | Ingestion | Multiple animal species | Not carcinogenic |
| Benzoyl Peroxide | Dermal | Mouse | Some positive data exist, but the data are not sufficient for classification |
| Ethylene Glycol | Ingestion | Multiple animal species | Not carcinogenic |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Ingestion | Rat | Not carcinogenic |

Reproductive Toxicity**Reproductive and/or Developmental Effects**

| Name | Route | Value | Species | Test Result | Exposure Duration |
|--|------------|--|---------|-----------------------|------------------------------|
| Benzoyl Peroxide | Ingestion | Not classified for female reproduction | Rat | NOAEL 1,000 mg/kg/day | premating & during gestation |
| Benzoyl Peroxide | Ingestion | Not classified for male reproduction | Rat | NOAEL 500 mg/kg/day | premating & during gestation |
| Benzoyl Peroxide | Ingestion | Not classified for development | Rat | NOAEL 500 mg/kg/day | premating & during gestation |
| Ethylene Glycol | Dermal | Not classified for development | Mouse | NOAEL 3,549 mg/kg/day | during organogenesis |
| Ethylene Glycol | Ingestion | Not classified for development | Mouse | LOAEL 750 mg/kg/day | during organogenesis |
| Ethylene Glycol | Inhalation | Not classified for development | Mouse | NOAEL 1,000 mg/kg/day | during organogenesis |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Inhalation | Not classified for male reproduction | Rat | NOAEL 1 mg/l | 2 weeks |

Target Organ(s)**Specific Target Organ Toxicity - single exposure**

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|--|-----------|---|-----------------------------------|---------|---------------------|------------------------|
| Ethylene Glycol | Ingestion | heart nervous system kidney and/or bladder respiratory system | Causes damage to organs | Human | NOAEL Not available | poisoning and/or abuse |
| Ethylene Glycol | Ingestion | central nervous system depression | May cause drowsiness or dizziness | Human | NOAEL Not available | poisoning and/or abuse |
| Ethylene Glycol | Ingestion | liver | Not classified | Human | NOAEL Not available | poisoning and/or abuse |
| Oxirane, Polymer with Methyloxirane, Monobutyl | Ingestion | nervous system | Not classified | Rat | NOAEL Not available | |

| | | | | | | |
|-------|--|--|--|--|--|--|
| Ether | | | | | | |
|-------|--|--|--|--|--|--|

Specific Target Organ Toxicity - repeated exposure

| Name | Route | Target Organ(s) | Value | Species | Test Result | Exposure Duration |
|--|------------|---|--|-------------------------|------------------------|-------------------|
| Ethylene Glycol | Ingestion | kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 200 mg/kg/day | 2 years |
| Ethylene Glycol | Ingestion | vascular system | Not classified | Rat | NOAEL 200 mg/kg/day | 2 years |
| Ethylene Glycol | Ingestion | heart hematopoietic system liver immune system muscles | Not classified | Rat | NOAEL 1,000 mg/kg/day | 2 years |
| Ethylene Glycol | Ingestion | respiratory system | Not classified | Mouse | NOAEL 12,000 mg/kg/day | 2 years |
| Ethylene Glycol | Ingestion | skin endocrine system bone, teeth, nails, and/or hair nervous system eyes | Not classified | Multiple animal species | NOAEL 1,000 mg/kg/day | 2 years |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Inhalation | endocrine system hematopoietic system liver nervous system | Not classified | Rat | NOAEL 1 mg/l | 2 weeks |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Inhalation | kidney and/or bladder | Not classified | Rat | NOAEL 0.005 mg/l | 2 weeks |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Inhalation | respiratory system | Not classified | Rat | LOAEL 0.001 mg/l | 2 weeks |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Inhalation | heart | Not classified | Rat | NOAEL 0.5 mg/l | 2 weeks |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Ingestion | liver kidney and/or bladder | Some positive data exist, but the data are not sufficient for classification | Rat | NOAEL 145 mg/kg/day | 90 days |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Ingestion | hematopoietic system | Not classified | Rat | NOAEL 500 mg/kg/day | 2 years |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | Ingestion | heart endocrine system respiratory system | Not classified | Rat | NOAEL 3,770 mg/kg/day | 90 days |

Aspiration Hazard

For the component/components, either no data are currently available or the data are not sufficient for classification.

Please contact the address or phone number listed on the first page of the SDS for additional toxicological information on this material and/or its components.

SECTION 12: Ecological information

The information below may not be consistent with the material classification in Section 2 if specific ingredient classifications are mandated by a competent authority. Additional information leading to material classification in Section 2 is available upon request. In addition, environmental fate and effects data on ingredients may not be reflected in this section because an ingredient is present below the threshold for labeling, an ingredient is not expected to be available for exposure, or the data is considered not relevant to the material as a whole.

12.1. Toxicity

Acute aquatic hazard:

GHS Acute 1: Very toxic to aquatic life.

Chronic aquatic hazard:

GHS Chronic 1: Very toxic to aquatic life with long lasting effects.

No product test data available

| Material | Cas # | Organism | Type | Exposure | Test Endpoint | Test Result |
|---|-------------|-------------------------------|---|------------|--------------------------------|---------------------------|
| Benzoyl Peroxide | 94-36-0 | Green Algae | Experimental | 72 hours | EC50 | 0.071 mg/l |
| Benzoyl Peroxide | 94-36-0 | Rainbow Trout | Experimental | 96 hours | LC50 | 0.06 mg/l |
| Benzoyl Peroxide | 94-36-0 | Water flea | Experimental | 48 hours | EC50 | 0.11 mg/l |
| Benzoyl Peroxide | 94-36-0 | Green Algae | Experimental | 72 hours | NOEC | 0.02 mg/l |
| Benzoyl Peroxide | 94-36-0 | Water flea | Experimental | 21 days | EC10 | 0.001 mg/l |
| Benzoyl Peroxide | 94-36-0 | Activated sludge | Experimental | 30 minutes | EC50 | 35 mg/l |
| Benzoyl Peroxide | 94-36-0 | Redworm | Experimental | 14 days | LC50 | >1,000 mg/kg (Dry Weight) |
| Benzoyl Peroxide | 94-36-0 | Soil microbes | Experimental | 28 days | EC50 | 2,300 mg/kg (Dry Weight) |
| Benzoic Acid, C9-11-Branched Alkyl Esters | 131298-44-7 | Activated sludge | Experimental | 3 hours | EC50 | >100 mg/l |
| Benzoic Acid, C9-11-Branched Alkyl Esters | 131298-44-7 | | Data not available or insufficient for classification | | | N/A |
| Ethylene Glycol | 107-21-1 | Bacteria | Experimental | 16 hours | EC50 | 10,000 mg/l |
| Ethylene Glycol | 107-21-1 | Fathead Minnow | Experimental | 96 hours | LC50 | 8,050 mg/l |
| Ethylene Glycol | 107-21-1 | Green algae | Experimental | 72 hours | EC50 | >1,000 mg/l |
| Ethylene Glycol | 107-21-1 | Water flea | Experimental | 48 hours | EC50 | >1,100 mg/l |
| Ethylene Glycol | 107-21-1 | Green Algae | Experimental | 72 hours | NOEC | 1,000 mg/l |
| Ethylene Glycol | 107-21-1 | Water flea | Experimental | 21 days | NOEC | 100 mg/l |
| Zinc Stearate | 557-05-1 | Water flea | Experimental | 48 hours | EC50 | >100 mg/l |
| Zinc Stearate | 557-05-1 | Zebra Fish | Experimental | 96 hours | No tox obs at lmt of water sol | >100 mg/l |
| Calcium Sulfate | 7778-18-9 | Activated sludge | Estimated | 3 hours | NOEC | 1,000 mg/l |
| Calcium Sulfate | 7778-18-9 | Algae or other aquatic plants | Experimental | 96 hours | EC50 | 3,200 mg/l |
| Calcium Sulfate | 7778-18-9 | Bluegill | Experimental | 96 hours | LC50 | >2,980 mg/l |
| Calcium | 7778-18-9 | Water flea | Experimental | 48 hours | LC50 | >1,970 mg/l |

| | | | | | | |
|--|------------|-------------------|----------------------|----------|------|-------------|
| Sulfate | | | | | | |
| Calcium Sulfate | 7778-18-9 | Water flea | Estimated | 21 days | NOEC | 1,270 mg/l |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | 9038-95-3 | Inland Silverside | Analogous Compound | 96 hours | LC50 | 650 mg/l |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | 9038-95-3 | Activated sludge | Experimental | 16 hours | IC50 | 32,000 mg/l |
| Ferric Ammonium Ferrocyanide | 25869-00-5 | Water flea | Endpoint not reached | 24 hours | EC50 | >100 mg/l |
| Ferric Ammonium Ferrocyanide | 25869-00-5 | Activated sludge | Experimental | 3 hours | NOEC | 100 mg/l |
| Ferric Ammonium Ferrocyanide | 25869-00-5 | Common Carp | Experimental | 96 hours | LC50 | >100 mg/l |
| Ferric Ammonium Ferrocyanide | 25869-00-5 | Green Algae | Experimental | 72 hours | EC50 | 9.7 mg/l |
| Ferric Ammonium Ferrocyanide | 25869-00-5 | Green Algae | Experimental | 72 hours | NOEC | 8 mg/l |
| Ferric Ammonium Ferrocyanide | 25869-00-5 | Water flea | Experimental | 21 days | EC10 | 0.168 mg/l |
| Ferric Ferrocyanide | 14038-43-8 | Golden Orfe | Estimated | 96 hours | LC50 | >100 mg/l |

12.2. Persistence and degradability

| Material | CAS No. | Test Type | Duration | Study Type | Test Result | Protocol |
|---|-------------|--------------------------------|----------|--------------------------|-------------------------------|--------------------------------|
| Benzoyl Peroxide | 94-36-0 | Experimental Hydrolysis | | Hydrolytic half-life | 5.2 hours (t _{1/2}) | OECD 111 Hydrolysis func of pH |
| Benzoyl Peroxide | 94-36-0 | Experimental Biodegradation | 28 days | Biological Oxygen Demand | 71 % BOD/ThBOD | OECD 301D - Closed Bottle Test |
| Benzoic Acid, C9-11-Branched Alkyl Esters | 131298-44-7 | Data not availbl- insufficient | | | N/A | |
| Ethylene Glycol | 107-21-1 | Experimental Biodegradation | 14 days | Biological Oxygen Demand | 90 % BOD/ThBOD | OECD 301C - MITI (I) |
| Zinc Stearate | 557-05-1 | Experimental Biodegradation | 28 days | Biological Oxygen Demand | 14.6 % BOD/ThBOD | OECD 301D - Closed Bottle Test |
| Calcium Sulfate | 7778-18-9 | Data not availbl- insufficient | | | N/A | |

| | | | | | | |
|--|------------|--------------------------------------|--|--|-----|--|
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | 9038-95-3 | Data not availbl- insufficient | | | N/A | |
| Ferric Ammonium Ferrocyanide | 25869-00-5 | Data not availbl- insufficiede | | | N/A | |
| Ferric Ferrocyanide | 14038-43-8 | Data not availbl- insufficient | | | N/A | |

12.3. Bioaccumulative potential

| Material | CAS No. | Test Type | Duration | Study Type | Test Result | Protocol |
|--|-------------|--|----------|--------------------------------------|-------------|---------------------------------|
| Benzoyl Peroxide | 94-36-0 | Experimental Bioconcentrati on | | Log of Octanol/H2O part. coeff | 3.2 | OECD 117 log Kow HPLC method |
| Benzoic Acid, C9-11- Branched Alkyl Esters | 131298-44-7 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Ethylene Glycol | 107-21-1 | Experimental Bioconcentrati on | | Log of Octanol/H2O part. coeff | -1.36 | Non-standard method |
| Zinc Stearate | 557-05-1 | Experimental Bioconcentrati on | | Log of Octanol/H2O part. coeff | 4.64 | OECD 117 log Kow HPLC method |
| Calcium Sulfate | 7778-18-9 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Oxirane, Polymer with Methyloxirane, Monobutyl Ether | 9038-95-3 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Ferric Ammonium Ferrocyanide | 25869-00-5 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |
| Ferric Ferrocyanide | 14038-43-8 | Data not available or insufficient for classification | N/A | N/A | N/A | N/A |

12.4. Mobility in soil

Please contact manufacturer for more details

12.5 Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Disposal methods

According to the Environmental Quality (Scheduled Wastes) Regulations 2005, scheduled waste has to be sent to a prescribed premise for recycling, treatment or disposal. Please approach Kualiti Alam for proper schedule waste classification and disposal.

SECTION 14: Transport Information

Marine Transport (IMDG)

UN Number:UN3108

Proper Shipping Name:ORGANIC PEROXIDE TYPE E, SOLID

Technical Name:Dibenzoyl peroxide (as a paste), <=52%)

Hazard Class/Division:5.2

Subsidiary Risk:None assigned.

Packing Group:None assigned.

Limited Quantity:Yes

Marine Pollutant: None assigned.

Marine Pollutant Technical Name: None assigned.

Other Dangerous Goods Descriptions:

None assigned.

Air Transport (IATA)

Forbidden:3M packaging does not meet regulatory agency requirements

Transportation classifications are provided as a customer service. As for shipping, YOU remain responsible for complying with all applicable laws and regulations, including proper transportation classification and packaging. 3M's transportation classifications are based on product formulation, packaging, 3M policies and 3M's understanding of applicable current regulations. 3M does not guarantee the accuracy of this classification information. This information applies only to transportation classification and not the packaging, labeling or marking requirements. The above information is only for reference. If you are shipping by air or ocean, YOU are advised to check & meet applicable regulatory requirements.

SECTION 15: Regulatory information

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

Global inventory status

Contact 3M for more information. The components of this material are in compliance with the provisions of the Korea Chemical Control Act. Certain restrictions may apply. Contact the selling division for additional information. The components of this material are in compliance with the provisions of Australia National Industrial Chemical Notification and Assessment Scheme (NICNAS). Certain restrictions may apply. Contact the selling division for additional information. The components of this product are in compliance with the new substance notification requirements of CEPA. This product complies with Measures on Environmental Management of New Chemical Substances. All ingredients are listed on or exempt from on China IECSC inventory. The components of this product are in compliance with the chemical notification requirements of TSCA. All required components of this product are listed on the active portion of the TSCA Inventory.

SECTION 16: Other information

DISCLAIMER: The information on this Safety Data Sheet is based on our experience and is correct to the best of our knowledge at the date of publication, but we do not accept any liability for any loss, damage or injury resulting from its use (except as required by law). The information may not be valid for any use not referred to in this Data Sheet or use of the product in combination with other materials. For these reasons, it is important that customers carry out their own test to satisfy themselves as to the suitability of the product for their own intended applications.

3M Malaysia SDSs are available at www.3M.com.my