# Kusuri Products Limited

www.kusuri.co.uk

## SAFETY DATA SHEET

FORMALIN & MALACHITE PREMIX

**Compilation date:** 14/12/2015
**Revision No:** 2

## Section 1: Identification of the substance/mixture and of the company/undertaking

### 1.1 Product identifier

**Product name:** FORMALIN & MALACHITE PREMIX 250ml, 500ml, 1 ltr.

**CAS number:** See section 3.2

**Product code:** FMC1/FMC2/FMC3

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

**Recommended use:** Aquatic fish medication for Koi Carp

**Not recommended:** For any other species

### 1.3. Details of the supplier of the safety data sheet

**Company name:** Kusuri Products Limited
12 Wentworth Road
Heathfield Industrial Estate
Newton Abbot
Devon
TQ12 6TL
United Kingdom

**Tel:** +44 (0)1626 836600

**Fax:** +44 (0)1626 836700

**Email:** kay@kusuri.co.uk QM

### 1.4. Emergency telephone number

**Emergency Tel:** +44 (0)1626 836600

## Section 2: Hazards identification

### 2.1. Classification of the substance or mixture

**Classification under CLP:** Acute Tox.4: H301, H302; H311, H331; Skin corr.1B: H314, Skin sens.1: H317; STOT SE Cat. 2:H371; STOT SE Cat.H335; STOT SE Cat.H341; Carc.Cat.1: H350; Eye Dam. 1: H318; Repr. 2 H361d; Aquatic Acute 1: H400 Aquatic Chronic 1: H410;

**Most important adverse effects:** Harmful if swallowed. Causes serious eye damage. Suspected of damage the unborn child. Very toxic to aquatic life with long lasting effects.

## 2.2. Label elements

**Hazard statements:**

H301: Toxic if swallowed.

H302: Harmful if swallowed.

H311: Toxic in contact with skin.

H314: Causes severe skin burns and eye damage.

H317: May cause an allergic skin reaction.

H318: Causes serious eye damage.

H331: Toxic if inhaled.

H335: May cause respiratory irritation.

H341: Suspected of causing genetic defects.

H350: May cause cancer

H361d: Suspected of damaging the unborn child.

H371: May cause damage to organs.

H410: Very toxic to aquatic life with long lasting effects.

**Signal words:** DANGER

**Hazard pictograms:**

GHS05: Corrosion
GHS06: Toxic
GHS07: Exclamation mark
GHS08: Health hazard

Contains Formaldehyde and Methanol

**Precautionary statements:**

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P260: Do not breathe vapour/spray.

P261: Avoid breathing vapour/spray.

P264: Wash contaminated skin thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

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

P272: Contaminated work clothing should not be allowed out of the workplace.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P301+310: IF SWALLOWED: Immediately call a POISON CENTER or doctor.

P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302+P352 IF ON SKIN: Wash with plenty of water.

P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water shower.

P304+P340+P338 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313: If exposed or concerned – Get medical attention.

P308+P313: If exposed or concerned: Get medical attention.

P331: Call a POISON CENTRE/doctor.

P312: Call a POISON CENTRE/doctor if you feel unwell.

P321: Specific treatment (see medical advice on this label).

P333+P313: If skin irritation or rash occurs: Get medical attention.

P361+P364: Take off immediately all contaminated clothing and wash it before reuse.

P363: Wash contaminated clothing before reuse.

P403+P233: Store in a well ventilated place. Keep container tightly closed.

P405: Store locked up.

P501: Dispose of contents/container to approved disposal plant.

### 2.3. Other hazards

**PBT:** This product is not identified as a PBT substance.

## Section 3: Composition/information on ingredients

### 3.1. Substances

**Chemical identity:** MALACHITE GREEN OXALATE 2% AQUEOUS SOLUTION, FORMALDEHYDE and METHANOL 30% mixture.

### 3.2.Mixtures

**Hazardous component(s):** Under CLP EC1272/2009

| Ingredient | CAS Number/ EC Number | REACH Registration Number | % | CLP Hazard Category | H-Statements |
|---|---|---|---|---|---|
| Formaldehyde | 50-00-0/200-001-8 | 01-2119488953-20-0009 | 30 - 50 | Acute Toxicity Category 3<br>Skin Corrosive Category 1B<br>STOT SE Category 3<br>Eye damage Category 1 | H301+H311+H331<br>H314<br>H335<br>H318 |

| | | | | | |
|---|---|---|---|---|---|
| Formaldehyde<br>Continued: | | | | Skin Sensitizer<br>Acute Toxicity Category 3<br>Skin Corrosive Category 1B<br>STOT SE Category 3<br>Eye damage Category 1<br>Skin Sensitizer Category 1A<br>Mutation Category2<br>Carcinogenicity Category 1B<br>STOT SE Category 2 | H317<br>H301+H311+H331<br>H314<br>H335<br>H318<br>H317<br>H341<br>H350<br>H371 |
| Methanol* | 67-56-1/200-659-6 | 01-2119433307-44-0017 | 3 -<10 | Acute Toxicity Category 3<br>Flammable Liquid Category 2<br>STOT SE Category 1 | H301,H311, H331<br>H225<br>H370 |
| Malachite Green Oxalate 2% Aqueous Solution | 2437-29-8 | ** | 2 | Acute Toxicity Category 4<br>Eye damage Category 1<br>Reproductive Category 2<br>Acute Category 1<br>Chronic Category 1 | H302<br>H318<br>H361d<br>H400<br>H410 |

*Subject to EU exposure limit – See section 8. ** A registration number is not available for this substance or its use are exempted from registration according to Article 2 REACH Regulation (EC) No 1907/2006, the annual tonnage does not require a registration of the registration is envisaged for a later registration deadline.

For full wording of H- statements see Section 2.

## Section 4: First aid measures

### 4.1. Description of first aid measures

**Skin contact:** Remove all contaminated clothes and footwear immediately unless stuck to skin. Drench the affected skim with running water for 10 minutes or longer if substance is on skin. Consult a doctor.

**Eye contact:** Bathe the eye with running water for 15 minutes. If irritation persists or develops consult a doctor.

**Ingestion:** Wash out mouth with water. Do not induce vomiting. If conscious, give half a litre of water to drink immediately. Consult a doctor.

**Personal precautions:** Ensure that those giving first aid treatment do not get contaminated by product spills, etc. Wear suitable clothing, gloves and eye protection. See also section 8 for details.

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

**Skin contact:** There may be irritation and redness at the site of contact.
May cause dermatitis reaction. Can cause skin burns.

**Eye contact:** Can cause severe eye irritation and redness with permanent damage. The eyes may water profusely.

**Ingestion:** Can cause burns to the mouth and throat. Nausea and stomach pain may occur. There may be vomiting.

**Inhalation:** Can cause burns to the gastrointestinal tract and severe irritation of the respiratory tract.

**Delayed / immediate effects:** Immediate effects can be expected after short-term exposure.

**Chronic Potential Health Effects:** Classified as a Category 1B carcinogen under CLP in the EU, mainly on grounds of inhalation experiments in animals.

### 4.3. Indication of any immediate medical attention and special treatment needed

**Immediate / special treatment:** Obtain medical attention if inhaled, ingested or in case of skin or eye contact.

## Section 5: Fire-fighting measures

### 5.1. Extinguishing media

**Extinguishing media:** Suitable extinguishing media for the surrounding fire should be used. Use water spray to cool containers.

### 5.2. Special hazards arising from the substance or mixture

**Exposure hazards:** In combustion emits toxic fumes.

### 5.3. Advice for fire-fighters

**Advice for fire-fighters:** Wear self-contained breathing apparatus. Wear protective clothing to prevent contact with skin and eyes.

## Section 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

**Personal precautions:** Refer to section 8 of SDS for personal protection details. If outside do not approach from downwind. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorised personnel. Observe warning labels on the container.

### 6.2. Environmental precautions

**Environmental precautions:** Do not discharge into drains or rivers. In case of a large spill, inform local police, local authority, water company, National Rivers Authority and/or fire brigade as appropriate.

### 6.3. Methods and material for containment and cleaning up

**Clean-up procedures:** Contain any spilled material immediately with a dry agent (e.g. sand, earth, vermiculite, etc.), Transfer to a closable, labelled salvage container for disposal by an appropriate method. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

### 6.4. Reference to other sections

**Reference to other sections:** Refer to section 8 of SDS for protective clothing details.
See Section 13 for details of disposal.

## Section 7: Handling and storage

### 7.1. Precautions for safe handling

**Handling requirements:** Avoid direct contact with the substance. Ensure there is sufficient ventilation of the area. Do not handle in a confined space. Do not ingest or breathe vapours. Use personal protective equipment (See Section 8). Take precautionary measures against static discharges. Vapours may form explosive mixture with air. Keep away from sources of ignition – NO smoking.

### 7.2. Conditions for safe storage, including any incompatibilities

**Storage conditions:** Store in cool, well ventilated area between 2°C and 30°C. Keep container and tightly closed. The floor of the storage room must be impermeable to prevent the escape of liquids. Avoid naked flames and other sources of ignition.

### 7.3. Specific end use(s)

**Specific end use(s):** Aquatic fish medication for Koi Carp.

**Caution:** Do not exceed the recommended dosage on label. Overdosing will cause fish fatalities.

## Section 8: Exposure controls/personal protection

### 8.1. Control parameters

**Occupational Exposure levels in mg/m³:** N/A

| | 8h – TWA | Short-term | Reference |
|---|---|---|---|
| **Formaldehyde:** | 2.5 | 2.5 (15 min) | UK (MEL), Ireland |
| **Methanol:** | 266 | 333 (15 min) | UK (WEL), Ireland, EU (IOELV) |

**Monitoring procedures:** None specified.

**DNEL/PNEC Values:** Not currently available.

### 8.2. Exposure controls

**Engineering measures:** Good ventilation. Arrange for eye wash possibility.

**Respiratory protection:** Full face respirator EN 141 (EU)

**Hand protection:** Protective Nitrile or Latex gloves. EN 374 (EU)

**Eye protection:** Safety glasses. Ensure eye bath is to hand. EN 166 (EU)

**Skin protection:** Protective clothing. EN 14605 (EU)

## Section 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

**State:** Liquid

**Colour:** Green

**Melting point/range°C:** -15 approx.

| | |
|---|---|
| **Boiling point range °C:** | 96 – 101 |
| **Flash point °C:** | 63 - 75 |
| **Evaporation rate:** | Not determined |
| **Flammability:** | Combustible liquid and vapour |
| **Explosive properties/limits:** | Upper limit in air = 73% for formaldehyde gas<br>Lower limit in air = 7% for formaldehyde gas<br>Upper limit in air = 37% for methanol<br>Lower limit in air = 6% for methanol |
| **Vapour pressure (mm Hg at 35°C:** | 4.2 (Formaldehyde Partial Pressure) |
| **Vapour density:** | Not determined |
| **Density at 20°C:** | 1080 - 1160 |
| **Solubility in water (% by weight):** | Miscible in all proportions |
| **Solubility in solvents:** | Soluble in ethanol, low in fatty type solvents |
| **Partition coefficient (log $K_{ow}$ ):** | 0.35 for formaldehyde gas<br>-0.77 for methanol |
| **Auto-ignition temperature (°C):** | 300 |
| **Decomposition temperature (°C):** | 400 |
| **Viscosity (mPa.s at 20(°C):** | 1.0 |
| **Oxidising properties:** | None |

### 9.2. Other information

| | |
|---|---|
| **Other information:** | These are typical values and do not constitute a specification. |

## Section 10: Stability and reactivity

### 10.1. Reactivity

| | |
|---|---|
| **Reactivity:** | Stable under normal conditions of use and storage, but may polymerise at temperatures above 60°C. |

### 10.2. Chemical stability

| | |
|---|---|
| **Chemical stability:** | Stable under normal conditions. |

### 10.3. Possibility of hazardous reactions

| | |
|---|---|
| **Hazardous reactions:** | Decomposition may occur on exposure to conditions or materials listed below. Reacts with strong oxidising agents. Vapour may react with hydrochloric acid to form bis-chloromethyl ether, a potent human carcinogen. |

### 10.4. Conditions to avoid

| | |
|---|---|
| **Conditions to avoid:** | Heat and Frost. Store in cool, well ventilated area between 2°C and 30°C. Avoid naked flames and other sources of ignition. (Evolves flammable gas at elevated temperatures). |

### 10.5. Incompatible materials

| | |
|---|---|
| **Materials to avoid:** | Strong oxidising agents. The solution may become discoloured on contact with metals and alloys containing zinc, iron, copper and nickel, which may become corroded. |

### 10.6. Hazardous decomposition products

**Haz. decomp. products:** In combustion emits toxic fumes. Formaldehyde (forms explosive mixture with air) may be evolved on heating, and carbon dioxides may be released on burning or heating to decomposition.

## Section 11: Toxicological information

### 11.1. Information on toxicological effects

**Relevant hazards for substance:**

| Hazard | Route | Basis |
|---|---|---|
| Acute toxicity (ac. Tox. 4)<br>Formaldehyde | <br>$LD_{50}$ (oral, rat)<br>$LD_{50}$ (dermal, rabbit)<br>$LD_{50}$ (inhalation, rat)<br>Toxic if swallowed, in contact with skin or if inhaled. Can cause burns to throat, nose and gastrointestinal tract and severe irritation of the respiratory tract. | Based on test data<br>100mg/kg<br>270mg/kg<br>203 $mg/m^3$ |
| **Hazard** | **Route** | **Basis** |
| Acute toxicity (ac. Tox. 4)<br>Malachite Green Oxalate 2% Aqueous Solution | ING | Based on test data |
| **Hazard** | **Route** | **Basis** |
| Acute toxicity (ac. Tox. 4)<br>Methanol | <br>$LD_{50}$ (oral, rat)<br>LDLo (oral, human)<br>Readily absorbed by the gastrointestinal tract.<br>$LD_{50}$ (dermal, rabbit)<br>Readily absorbed through the skin.<br>$LD_{50}$ (inhalation, rat)<br>TCLo (inhalation, human)<br>Readily absorbed by inhalation. | Based on test data<br>>1187 – 2769 mg/kg<br>143 mg/kg<br><br><br>Approx. 17100 mg/kg<br><br>128.2 mg/l/4 hour<br>300 ppm |
| Skin corrosion/irritation | Product can cause skin burns. | Based on test data |
| Serious eye damage/irritation | Product can cause severe eye irritation with permanent damage. | Based on test data |
| Respiratory or skin sensitisation | Products may cause allergic contact dermatitis reaction by skin contact (type IV immune reaction, acute and chronic skin sensitisation). Persons sensitised to formaldehyde should not handle this product. | Based on test data |

| | | |
|---|---|---|
| Germ cell mutagenicity | Reason for no classification: conclusive evidence but not sufficient for classification. | Based on test data |
| Carcinogenicity | Product classified as a Category 1 carcinogen under CLP in the EU, mainly on the grounds of inhalation experiments in animals that led to nasal cancer.<br>Carcinogenic to humans. | Based on test data |
| Reproductive toxicity | Reason for no classification: Conclusive but not sufficient for classification. | Based on test data |
| STOT single exposure | May cause respiratory irritation. Methanol causes damage to organs, can cause blindness. | Based on test data |
| STOT repeated exposure | Reason for no classification: Conclusive but not sufficient for classification. | Based on test data |
| Aspiration | Reason for no classification: Conclusive but not sufficient for classification. | Based on test data |

**Symptoms / routes of exposure**

**Skin contact:** There may be irritation and redness at the site of contact. May cause allergic contact dermatitis and burns.

**Eye contact:** There may be irritation and redness. The eyes may water profusely. Can cause permanent damage.

**Ingestion:** There may be burns, soreness and redness of the mouth and throat. Nausea and stomach pain may occur. There may be vomiting. Can cause burns and permanent damage to gastrointestinal tract.

**Inhalation:** There may be severe irritation and burns to the throat, nose and respiratory tract with a feeling of tightness in the chest.

**Delayed / immediate effects:** Immediate effects can be expected after short-term exposure and long-term exposure. Product classified as a Category 2 carcinogen under CLP in the EU, mainly on the grounds of inhalation experiments in animals.

**Other information:** None.

## Section 12: Ecological information

### 12.1. Toxicity

**Data for active ingredients formaldehyde:**

| | |
|---|---|
| $EC_{50}$, Daphnia magna, 24hr (mg/l) | 42 |
| Bacterial toxicity: $EC_{50}$ Photobacterium phosphoreum, 30min (mg/l) | 8.5 |
| Activated sludge: $EC_{20}$ Pseudomonas putida, 5hr (mg/l) | >1,995 |

| | |
|---|---|
| $LC_{50}$, Pimephales promelas, 96hr (mg/l) | 24 |
| $LC_{50}$, Brachydanio rerio, 96hr (mg/l) | 41 |
| $EC_{50}$, Daphnia magna, 48hr (mg/l) | Approx. 2 |

**NB:** Formaldehyde exhibits a toxic effect on aquatic organisms, but is not officially classified as such. Not acutely toxic to vertebrate animals, but exerts activity against invertebrates, e.g. bacteria. Sludge decomposition can be impaired, but the inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations. DO NOT OVERDOSE.

### 12.2. Persistence and degradability

**Persistence and degradability:** Readily biodegradable.

### 12.3. Bioaccumulative potential

**Bioaccumulative potential:** Bioaccumulation potential.

**Partition coefficient (log $K_{ow}$):** 0.35, for formaldehyde gas

-0.77, for methanol

### 12.4. Mobility in soil

. Adsorption to solid soil phase is not expected. Formaldehyde will not evaporate into the atmosphere from water surfaces.

### 12.5. Results of PBT and vPvB assessment

**PBT identification:** This product is not identified as a PBT substance or vPvB substance.

### 12.6. Other adverse effects

**Other adverse effects:** Toxic to aquatic organisms. Toxic to soil organisms.

**Formaldehyde:** Classified as WGK = 2, water polluting, (Kenn Nr. 112) by the German Water Pollution Commission.

**Methanol:** Classified as WGK = 1, water polluting, (Kenn Nr. 145) by the German Water Pollution Commission.

## Section 13: Disposal considerations

### 13.1. Waste treatment methods

**Disposal operations:** Transfer to a suitable container and contact your local waste disposal authority for advice. Users should acquaint themselves with the local waste disposal regulations. This product comes under European Waste Codes H6, H8 and H11, therefore, waste is considered 'Hazardous waste' if it contains $\geq$ 1% product; European Waste Catalogue Index No. 07 01 99, if not mixed with other waste.

**NB:** The user's attention is drawn to the possible existence of regional or national regulations regarding disposal.

**Disposal of packaging:** Contaminated packing should be disposed of as Hazardous Waste, as above, according to local authority guidelines.

## Section 14: Transport information

### 14.1. UN number

**UN number:** UN2209

### 14.2. UN proper shipping name

**Shipping name:** FORMALIN/MALACHITE SOLUTION

### 14.3. Transport hazard class(es)

**Transport class:** 8

### 14.4. Packing group

**Packing group:** III

### 14.5. Environmental hazards

**Environmentally hazardous:** Yes **Marine pollutant:** No

### 14.6. Special precautions for user

**Special precautions:** See P statements in section 2

**Tunnel code:** E

**Transport category:** 2

## Section 15: Regulatory information

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

**Manufacturers licence No:** SAM0002 under VMD regulations.

**COSHH:** Control of Substances Hazardous to Health (COSHH) Regulations 2002

**HSE:** Health and Safety at Work Act 1974

H.S.E. Guidance Note EH40 (Occupational Exposure Limits)

Manual Handling Operations Regulations 1992

**EU legislation:** Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18

December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16

December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

Commission Decision 2000/532/EC as amended by Decision 2001/118/EC establishing a list of wastes and hazardous waste pursuant to Council Directive 75/442/EEC on waste and Directive 91/689/EEC on hazardous waste with amendments.

### 15.2. Chemical Safety Assessment

**Chemical safety assessment:** A chemical safety assessment has been carried out.

## Section 16: Other information

### Other information

**Other information:** This safety data sheet is prepared in accordance with Commission Regulation (EU) No 453/2010.

**Legal disclaimer:** The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. This company shall not be held liable for any damage resulting from handling or from contact with the above product.

**Abbreviations and acronyms:** *$LC_{50}$: Lethal concentration, 50 percent*

*$EC_{50}$: Effective concentration, 50 percent*

*$EC_{20}$: Effective concentration, 20 percent*