SAFETY DATA SHEET

Date of issue/Date of revision : 16 December 2024 **Version** : 8.03

SECTION 1: Identification of the substance/mixture and of the company/ undertaking

1.1 Product identifier

Product name : SIGMA ECOFLEET 290 S REDBROWN

Product code : 00249481

Other means of identification

Not available.

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

Product use : Professional applications, Used by spraying.

Use of the substance/ mixture : Antifouling products

Uses advised against : Product is not intended, labelled or packaged for consumer use.

1.3 Details of the supplier of the safety data sheet

Sigma Paint Saudi Arabia Ltd.
PO Box 7509
Dammam 31472
Saudi Arabia
Tel: 00966 138 47 31 00
Fax: 00966 138 47 17 34

e-mail address of person responsible for this SDS : ndpic@sfda.gov.sa

1.4 Emergency telephone number

: 00966 138473100 extn 1001

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Product definition : Mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Flam. Liq. 3, H226
Acute Tox. 4, H302
Eye Dam. 1, H318
Skin Sens. 1, H317
Carc. 2, H351
STOT SE 3, H335
STOT SE 3, H336
Aquatic Acute 1, H400
Aquatic Chronic 1, H410

The product is classified as hazardous according to Regulation (EC) 1272/2008 as amended.

See Section 16 for the full text of the H statements declared above.

See Section 11 for more detailed information on health effects and symptoms.

2.2 Label elements

SECTION 2: Hazards identification

Hazard pictograms :

Signal word : Danger

Hazard statements : Flammable liquid and vapour.
Harmful if swallowed.
May cause an allergic skin reaction.
Causes serious eye damage.
May cause respiratory irritation.
May cause drowsiness or dizziness.
Suspected of causing cancer.
Very toxic to aquatic life with long lasting effects.

Precautionary statements

Prevention : Wear protective gloves, protective clothing and eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Avoid release to the environment.

Response : Collect spillage.

Storage : Store in a well-ventilated place. Keep container tightly closed.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.
P280, P210, P273, P391, P403 + P233, P501

Supplemental label elements : Repeated exposure may cause skin dryness or cracking.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Special packaging requirements

Containers to be fitted with child-resistant fastenings : Not applicable.

Tactile warning of danger : Not applicable.

2.3 Other hazards

Product meets the criteria for PBT or vPvB : This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

Other hazards which do not result in classification : Prolonged or repeated contact may dry skin and cause irritation.

SECTION 3: Composition/information on ingredients

3.2 Mixtures : Mixture

Product/ingredient name	Identifiers	%	Classification	Specific Conc. Limits, M-factors and ATEs	Type
dicopper oxide	REACH #: 01-2119513794-36 EC: 215-270-7 CAS: 1317-39-1 Index: 029-002-00-X	≥25 - ≤50	Acute Tox. 4, H302 Acute Tox. 4, H332 Eye Dam. 1, H318 Aquatic Acute 1, H400 Aquatic Chronic 1, H410	ATE [Oral] = 500 mg/kg ATE [Inhalation (dusts and mists)] = 3.34 mg/l M [Acute] = 100 M [Chronic] = 10	[1] [2]
Hydrocarbons, C9, aromatics < 0.1% cumene	REACH #: 01-2119455851-35 EC: 918-668-5 CAS: 128601-23-0	≥10 - ≤25	Flam. Liq. 3, H226 STOT SE 3, H335 STOT SE 3, H336 Asp. Tox. 1, H304 Aquatic Chronic 2, H411 EUH066	EUH066: C ≥ 20%	[1]
rosin	REACH #: 01-2119480418-32 EC: 232-475-7 CAS: 8050-09-7 Index: 650-015-00-7	≥10 - ≤25	Skin Sens. 1, H317	-	[1] [2]
zinc oxide	REACH #: 01-2119463881-32 EC: 215-222-5 CAS: 1314-13-2 Index: 030-013-00-7	≥5.0 - ≤10	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 1 M [Chronic] = 1	[1]
4-methylpentan-2-one	REACH #: 01-2119473980-30 EC: 203-550-1 CAS: 108-10-1 Index: 606-004-00-4	≥5.0 - ≤10	Flam. Liq. 2, H225 Acute Tox. 4, H332 Eye Irrit. 2, H319 Carc. 2, H351 STOT SE 3, H336 EUH066	ATE [Inhalation (vapours)] = 11 mg/l EUH066: C ≥ 20%	[1] [2]
zineb (ISO)	EC: 235-180-1 CAS: 12122-67-7 Index: 006-078-00-2	≥5.0 - ≤10	Skin Sens. 1, H317 STOT SE 3, H335	-	[1]
xylene	REACH #: 01-2119488216-32 EC: 215-535-7 CAS: 1330-20-7	≥1.0 - ≤5.0	Flam. Liq. 3, H226 Acute Tox. 4, H312 Acute Tox. 4, H332 Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 Asp. Tox. 1, H304 Aquatic Chronic 3, H412	ATE [Dermal] = 1700 mg/kg ATE [Inhalation (vapours)] = 11 mg/l	[1] [2]
copper(II) oxide	REACH #: 01-2119502447-44 EC: 215-269-1 CAS: 1317-38-0 Index: 029-016-00-6	≤1.0	Aquatic Acute 1, H400 Aquatic Chronic 1, H410	M [Acute] = 100 M [Chronic] = 10	[1]
copper	REACH #: 01-2119480154-42	<1.0	Aquatic Acute 1, H400 Aquatic Chronic 3, H412	M [Acute] = 1	[1]

SECTION 3: Composition/information on ingredients

	EC: 231-159-6 CAS: 7440-50-8		**See Section 16 for the full text of the H statements declared above.**		

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment, are PBTs, vPvBs or Substances of equivalent concern, or have been assigned a workplace exposure limit and hence require reporting in this section.

Xylene: Several REACH registrations cover the REACH registered substance with xylene isomers, ethylbenzene (and toluene). The other REACH Registrations include: 01-2119555267-33 reaction mass of ethylbenzene and m-xylene and p-xylene, 01-2119486136-34 Aromatic hydrocarbons, C8, 01-2119539452-40 reaction mass of ethylbenzene and xylene.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

Occupational exposure limits, if available, are listed in Section 8.

SUB codes represent substances without registered CAS Numbers.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye contact : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

Inhalation : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.

Skin contact : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognised skin cleanser. Do NOT use solvents or thinners.

Ingestion : If swallowed, seek medical advice immediately and show the container or label. Keep person warm and at rest. Do NOT induce vomiting.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

SECTION 4: First aid measures

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : Use dry chemical, CO_2, water spray (fog) or foam.

Unsuitable extinguishing media : Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture : Flammable liquid and vapour. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. This material is very toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous combustion products : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides
sulfur oxides
halogenated compounds
metal oxide/oxides
oxides of lead

5.3 Advice for firefighters

Special precautions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

6.3 Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product.

6.4 Reference to other sections : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

7.1 Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

SECTION 7: Handling and storage

7.2 Conditions for safe storage, including any incompatibilities : Store between the following temperatures: 0 to 35°C (32 to 95°F). Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Separate from oxidising materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

See Section 1.2 for Identified uses.

SECTION 8: Exposure controls/personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

dicopper oxide	**Ministry of Labor (France, 9/2023) [cuivre (fumées)]** TWA 8 hours: 0.2 mg/m³. Form: Fume.
Hydrocarbons, C9, aromatics < 0.1% cumene	**Ministry of Labor (France, 9/2023) [hydrocarbures en C6-C12]** TWA 8 hours: 1000 mg/m³. Form: Vapour. STEL 15 minutes: 1500 mg/m³. Form: Vapour.
rosin	**Ministry of Labor (France, 9/2023)** TWA 8 hours: 0.1 mg/m³ (expressed as formaldehyde).
4-methylpentan-2-one	**Ministry of Labor (France, 9/2023)** Carc 2. TWA 8 hours: 20 ppm. TWA 8 hours: 83 mg/m³. STEL 15 minutes: 208 mg/m³. STEL 15 minutes: 50 ppm.
xylene	**Ministry of Labor (France, 9/2023) [xylènes, isomères mixtes, purs]** Absorbed through skin. STEL 15 minutes: 442 mg/m³. STEL 15 minutes: 100 ppm. TWA 8 hours: 221 mg/m³. TWA 8 hours: 50 ppm.

Product/ingredient name	Exposure limit values
dicopper oxide	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016) [copper fume]** TWA 8 hours: 0.2 mg/m³. Form: fumes. **ACGIH TLV (United States, 7/2023) [copper fume]** TWA 8 hours: 0.2 mg/m³. Form: Fume.
rosin	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016)** Sensitiser , Keep exposure as low as possible. **ACGIH TLV (United States, 7/2023) [resin acids]** Skin sensitiser , Inhalation sensitiser. TWA 8 hours: 0.001 mg/m³ (as total Resin acids). Form: Inhalable fraction.
zinc oxide	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016)**

	STEL 15 minutes: 10 mg/m³. Form: measured as respirable fraction of the aerosol and fume. TWA 8 hours: 2 mg/m³. Form: measured as respirable fraction of the aerosol and fume. **Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)** TWA 8 hours: 5 mg/m³. Form: fumes. STEL 15 minutes: 10 mg/m³. Form: fumes. **ACGIH TLV (United States, 7/2023)** TWA 8 hours: 2 mg/m³. Form: Respirable fraction. STEL 15 minutes: 10 mg/m³. Form: Respirable fraction.
4-methylpentan-2-one	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016)** A3. TWA 8 hours: 82 mg/m³. TWA 8 hours: 20 ppm. STEL 15 minutes: 307 mg/m³. STEL 15 minutes: 75 ppm. **Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)** STEL 15 minutes: 75 ppm. TWA 8 hours: 205 mg/m³. STEL 15 minutes: 307 mg/m³. TWA 8 hours: 50 ppm. **ACGIH TLV (United States, 7/2023)** A3. TWA 8 hours: 20 ppm. STEL 15 minutes: 75 ppm.
1,2,4-trimethylbenzene	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016) [trimethyl benzene (mixed isomers)]** TWA 8 hours: 123 mg/m³. TWA 8 hours: 25 ppm. **ACGIH TLV (United States, 7/2023)** A4. TWA 8 hours: 10 ppm.
diiron trioxide	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016)** A4. TWA 8 hours: 5 mg/m³. Form: measured as respirable fraction of the aerosol. **Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)** TWA 8 hours: 5 mg/m³. **ACGIH TLV (United States, 7/2023)** A4. TWA 8 hours: 5 mg/m³. Form: Respirable fraction.
xylene	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016) [xylene (o, m & p isomers)]** A4. STEL 15 minutes: 651 mg/m³. STEL 15 minutes: 150 ppm. TWA 8 hours: 434 mg/m³. TWA 8 hours: 100 ppm. **Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006) [xylene (all isomers)]** STEL 15 minutes: 150 ppm. TWA 8 hours: 434 mg/m³. STEL 15 minutes: 651 mg/m³. TWA 8 hours: 100 ppm. **ACGIH TLV (United States, 7/2023) [p-xylene and mixtures containing p-xylene]** A4. Ototoxicant. TWA 8 hours: 20 ppm.

Talc , not containing asbestiform fibres	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016)** A4. TWA 8 hours: 2 mg/m³. Form: measured as respirable fraction of the aerosol. **Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)** TWA 8 hours: 2 mg/m³. **ACGIH TLV (United States, 7/2023)** A4. TWA 8 hours: 2 mg/m³. Form: Respirable fraction.
copper(II) oxide	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016) [copper fume]** TWA 8 hours: 0.2 mg/m³. Form: fumes. **ACGIH TLV (United States, 7/2023) [copper fume]** TWA 8 hours: 0.2 mg/m³. Form: Fume.
copper	**Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016) [copper dusts and mists]** TWA 8 hours: 1 mg/m³ (as Cu). Form: dusts and mists. **Abu Dhabi - OSHAD - Occupational air quality threshold limit values (United Arab Emirates, 7/2016) [copper fume]** TWA 8 hours: 0.2 mg/m³. Form: fumes. **Cabinet Decree (12) of 2006 Regarding Regulation Concerning Protection of Air from Pollution (United Arab Emirates, 5/2006)** TWA 8 hours: 0.2 mg/m³. Form: fumes. TWA 8 hours: 1 mg/m³. Form: dusts. **ACGIH TLV (United States, 7/2023) [copper dusts and mists]** TWA 8 hours: 1 mg/m³ (as Cu). Form: Dusts and mists. **ACGIH TLV (United States, 7/2023) [copper fume]** TWA 8 hours: 0.2 mg/m³. Form: Fume.
4-methylpentan-2-one	**DOL BEI (South Africa, 3/2021)** BEI: 1 mg/l, methyl isobutyl ketone [in urine]. Sampling time: end of shift.
xylene	**DOL BEI (South Africa, 3/2021) [xylenes]** BEI: 1.5 g/g creatinine, methylhippuric acid [in urine]. Sampling time: end of shift.

Recommended monitoring procedures : Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

8.2 Exposure controls

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Chemical splash goggles and face shield.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. When prolonged or frequently repeated contact may occur, a glove with a protection class of 6 (breakthrough time greater than 480 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 2 or higher (breakthrough time greater than 30 minutes according to EN 374) is recommended. The user must check that the final choice of type of glove selected for handling this product is the most appropriate and takes into account the particular conditions of use, as included in the user's risk assessment.

Gloves : butyl rubber

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves. Refer to European Standard EN 1149 for further information on material and design requirements and test methods.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection :

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

9.1 Information on basic physical and chemical properties

Appearance

Physical state : Liquid.

Colour : Brownish-red.

Odour : Characteristic.

Odour threshold : Not available.

Melting point/freezing point : Not determined.

Initial boiling point and boiling range : >37.78°C

Flammability : Not determined. There are no data available on the mixture itself.

Upper/lower flammability or explosive limits : Not available.

Flash point : Closed cup: 31°C

Auto-ignition temperature :

SECTION 9: Physical and chemical properties

Ingredient name	°C	°F	Method
zineb (ISO)	149	300.2	

Decomposition temperature : Stable under recommended storage and handling conditions (see Section 7).

pH : Not applicable. insoluble in water.

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C): >21 mm^2/s

Solubility(ies) :

Media	Result
cold water	Not soluble

Partition coefficient: n-octanol/water : Not applicable.

Vapour pressure :

Ingredient name	Vapour Pressure at 20°C			Vapour pressure at 50°C		
	mm Hg	kPa	Method	mm Hg	kPa	Method
4-methylpentan-2-one	15.75128	2.1				

Relative density : 1.68

Explosive properties : The product itself is not explosive, but the formation of an explosible mixture of vapour or dust with air is possible.

Oxidising properties : Product does not present an oxidizing hazard.

Particle characteristics

Median particle size : Not applicable.

9.2 Other information

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.

10.2 Chemical stability : The product is stable.

10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products.
Refer to protective measures listed in sections 7 and 8.

10.5 Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidising agents, strong alkalis, strong acids.

10.6 Hazardous decomposition products : Depending on conditions, decomposition products may include the following materials: carbon oxides nitrogen oxides sulfur oxides halogenated compounds metal oxide/ oxides

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
dicopper oxide	LC50 Inhalation Dusts and mists	Rat	3.34 mg/l	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	500 mg/kg	-
Hydrocarbons, C9, aromatics < 0.1% cumene	LD50 Dermal	Rabbit - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	8400 mg/kg	-
rosin	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	7600 mg/kg	-
zinc oxide	LC50 Inhalation Dusts and mists	Rat	>5700 mg/m³	4 hours
	LD50 Dermal	Rat	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
4-methylpentan-2-one	LC50 Inhalation Vapour	Rat	11 mg/l	4 hours
	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	2.08 g/kg	-
zineb (ISO)	LD50 Oral	Rat	>2000 mg/kg	-
xylene	LD50 Dermal	Rabbit	1.7 g/kg	-
	LD50 Oral	Rat	4.3 g/kg	-
copper(II) oxide	LD50 Oral	Rat	>2000 mg/kg	-
copper	LC50 Inhalation Dusts and mists	Rat	>5.11 mg/l	4 hours

Conclusion/Summary : There are no data available on the mixture itself.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
xylene	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Sensitisation

Product/ingredient name	Route of exposure	Species	Result
zineb (ISO)	skin	Guinea pig	Sensitising

Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

Teratogenicity

Conclusion/Summary : There are no data available on the mixture itself.

SECTION 11: Toxicological information

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Hydrocarbons, C9, aromatics < 0.1% cumene	Category 3	-	Respiratory tract irritation
	Category 3		Narcotic effects
4-methylpentan-2-one	Category 3	-	Narcotic effects
zineb (ISO)	Category 3	-	Respiratory tract irritation
xylene	Category 3	-	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Product/ingredient name	Result
Hydrocarbons, C9, aromatics < 0.1% cumene	ASPIRATION HAZARD - Category 1
xylene	ASPIRATION HAZARD - Category 1

Information on likely routes of exposure : Not available.

Potential acute health effects

Inhalation : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness. May cause respiratory irritation.

Ingestion : Harmful if swallowed. Can cause central nervous system (CNS) depression.

Skin contact : Defatting to the skin. May cause skin dryness and irritation. May cause an allergic skin reaction.

Eye contact : Causes serious eye damage.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness

Ingestion : Adverse symptoms may include the following:
stomach pains

Skin contact : Adverse symptoms may include the following:
pain or irritation
redness
dryness
cracking
blistering may occur

Eye contact : Adverse symptoms may include the following:
pain
watering
redness

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

SECTION 11: Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

Conclusion/Summary : Not available.

General : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : No known significant effects or critical hazards.

Reproductive toxicity : No known significant effects or critical hazards.

Other information : Not available.

Prolonged or repeated contact may dry skin and cause irritation. Sanding and grinding dusts may be harmful if inhaled. Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapour/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. Avoid contact with skin and clothing.

11.2 Information on other hazards

11.2.1 Endocrine disrupting properties

Not available.

11.2.2 Other information

Not available.

SECTION 12: Ecological information

12.1 Toxicity

Product/ingredient name	Result	Species	Exposure
dicopper oxide	LC50 0.003 mg/l	Fish	96 hours
Hydrocarbons, C9, aromatics < 0.1% cumene	LC50 9.2 mg/l	Fish	96 hours
zinc oxide	Acute EC50 0.17 mg/l	Algae	72 hours
	Acute EC50 0.481 mg/l Fresh water	Daphnia - *Daphnia magna* - Neonate	48 hours
	Chronic NOEC 0.017 mg/l Fresh water	Algae	72 hours
4-methylpentan-2-one	Acute LC50 >179 mg/l	Fish	96 hours
copper	Acute LC50 810 ppb	Fish	96 hours
	Chronic EC10 8.1 µg/l	Daphnia - *Daphnia magna* - Neonate	21 days

Conclusion/Summary : There are no data available on the mixture itself.

12.2 Persistence and degradability

Product/ingredient name	Test	Result	Dose	Inoculum
Hydrocarbons, C9, aromatics < 0.1% cumene	-	78 % - 28 days	-	-
4-methylpentan-2-one	OECD 301F	83 % - Readily - 28 days	-	-

Conclusion/Summary : There are no data available on the mixture itself.

SECTION 12: Ecological information

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Hydrocarbons, C9, aromatics < 0.1% cumene	-	-	Readily
4-methylpentan-2-one	-	-	Readily
xylene	-	-	Readily

12.3 Bioaccumulative potential

Product/ingredient name	$LogP_{ow}$	BCF	Potential
Hydrocarbons, C9, aromatics < 0.1% cumene	3.7 to 4.5	10 to 2500	High
rosin	1.9 to 7.7	-	High
4-methylpentan-2-one	1.9	-	Low
zineb (ISO)	1.3	-	Low
xylene	3.12	7.4 to 18.5	Low

12.4 Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

This mixture does not contain any substances that are assessed to be a PBT or a vPvB.

12.6 Endocrine disrupting properties

Not available.

12.7 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

Hazardous waste : Yes.

European waste catalogue (EWC)

Waste code	Waste designation
08 01 11*	waste paint and varnish containing organic solvents or other hazardous substances

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

SECTION 13: Disposal considerations

Type of packaging	European waste catalogue (EWC)	
Container	15 01 06	mixed packaging

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapour from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	IMDG	IATA
14.1 UN number or ID number	UN1263	UN1263	UN1263
14.2 UN proper shipping name	PAINT	PAINT	PAINT
14.3 Transport hazard class(es)	3	3	3
14.4 Packing group	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes. The environmentally hazardous substance mark is not required.
Marine pollutant substances	Not applicable.	(dicopper oxide)	Not applicable.

Additional information

ADR/RID : The environmentally hazardous substance mark is not required when transported in sizes of ≤5 L or ≤5 kg.

Tunnel code : (D/E)

IMDG : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

IATA : The environmentally hazardous substance mark may appear if required by other transportation regulations.

14.6 Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in bulk according to IMO instruments : Not applicable.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

SECTION 15: Regulatory information

None of the components are listed.

Annex XVII - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles : Not applicable.

Other national and international regulations.

Explosive precursors : Not applicable.

Ozone depleting substances (1005/2009/EU)

Not listed.

15.2 Chemical safety assessment : No Chemical Safety Assessment has been carried out.

SECTION 16: Other information

Indicates information that has changed from previously issued version.

Abbreviations and acronyms :
ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number

Full text of abbreviated H statements :

H225	Highly flammable liquid and vapour.
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H351	Suspected of causing cancer.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.
EUH066	Repeated exposure may cause skin dryness or cracking.

Full text of classifications [CLP/GHS] :

Acute Tox. 4	ACUTE TOXICITY - Category 4
Aquatic Acute 1	SHORT-TERM (ACUTE) AQUATIC HAZARD - Category 1
Aquatic Chronic 1	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 1
Aquatic Chronic 2	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 2
Aquatic Chronic 3	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3
Asp. Tox. 1	ASPIRATION HAZARD - Category 1
Carc. 2	CARCINOGENICITY - Category 2
Eye Dam. 1	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 1
Eye Irrit. 2	SERIOUS EYE DAMAGE/EYE IRRITATION - Category 2
Flam. Liq. 2	FLAMMABLE LIQUIDS - Category 2
Flam. Liq. 3	FLAMMABLE LIQUIDS - Category 3
Skin Irrit. 2	SKIN CORROSION/IRRITATION - Category 2
Skin Sens. 1	SKIN SENSITISATION - Category 1
STOT SE 3	SPECIFIC TARGET ORGAN TOXICITY - SINGLE

SECTION 16: Other information

EXPOSURE - Category 3

History

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Disclaimer

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