Philadelphia Coatings LLC
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Safety Data Sheet

1. Chemicals and enterprise identification

Product name and code: **PHILAZISIL PHZ 6003 - Comp. A**

Chemical name and synonym: **ethyl-silicate**

Application of the substance: **Two component inorganic zinc ethyl silicate**

Product use: **Coating Solvent-borne**

Colors: **Gray**

Supplier/manufacturer: **Philadelphia Coatings LLC**

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Chemical emergency response numbers: 1-800-255-3924 for Domestic and +1-813-248-0585 for International.
Shipments of hazardous materials within the listed countries should reference ChemTel's in-county phone numbers:
Australia: 1-300-954-583, Brazil: 0-800-591-6042, China: 400-120-0751, India: 000-800-100-4086, Mexico: 01-800-099-0731

2. Hazards identification

The product is classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 (REACH), Annex II and subsequent amendments. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Pictograms:

Signal word: Danger

Hazard classification (GHS) and indication:			
Flammable liquids	Category 2	H225	High flammable liquid and vapour
Flammable liquids	Category 3	H226	Flammable liquid and vapour
Flammable Liquids	Category 4	H227	Combustible liquid
Acute Toxicity Oral	Category 3	H301	Toxic if swallowed
Acute Toxicity Oral	Category 4	H302	Harmful if swallowed
Acute Toxicity Dermal	Category 3	H311	Toxic in contact with skin
Acute toxicity Dermal	Category 4	H312	Harmful in contact with skin
Acute Toxicity Inhalation	Category 1	H330	Fatal if inhaled
Acute toxicity/Inhalation (Dust and Mists)	Category 4	H332	Harmful if inhaled
Skin corrosion/irritation	Category 2	H315	Causes skin irritation
Serious eye damage/eye irritation	Category 2	H319	Causes serious eye irritation
Specific target organ toxicity - single exposure	Category 3 (respiratory tract irritation)	H335, H336	May cause respiratory irritation May cause drowsiness or dizziness
Serious eye damage/eye irritation	Category 2	H320	Causes eye irritation
Reproductive Toxicity	Category 2	H361	Suspected of damaging fertility or the unborn child
Specific Target Organ toxicity - single exposure	Category 1	H370	Causes damage to organs
Specific Target Organ toxicity - repeated exposure	Category 2	H373	May cause damage to organs through prolonged or repeated exposure

3. Ingredient/composition information

Chemical name	Notes	CAS number	EC number	% by weight	Classification
Xylene	C	1330-20-7	215-535-7	1-2.5	Flam. Liq. 3, H226, Acute Tox. 4, H312, Acute Tox. 4, H332 Skin. Irrit. 2, H315 Eye Irrit. 2, H319
1-Methoxy-2-propanol	-	107-98-2	203-539-1	25-50	Flam. Liq. 3, H226, STOT SE 3 H336, Eye Irrit. 2, H320
Propan-2-ol	-	67-63-0	200-661-7	2.5 – 10	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336
2-Butoxyethanol	-	111-76-2	203-905-0	2.5-10	Flam. Liq. 4, H227, Acute Tox. 3, H301, Acute Tox. 3, H311, STOT SE 3, H335, Acute Tox. 2, H330, Rep. Tox. 2, H361, STOT RE 2, H373 (hearing organs), STOT RE 1, H370, Acute Tox. 4, H302, H312, Acute Tox. 4, H332, Skin. Irrit. 2, H315, Eye Irrit. 2, H319
Tetraethyl Silicate		78-10-4	201-083-8	2.5-10	Flam. Liq. 3 H226, Acute Tox. 4 H332, Eye Irrit. 2 H319, STOT SE 3 H335
Silicic acid		11099-06-2	234-324-0	2.5-10	Flam. Liq. 2 H225, Acute Tox. 4, H332, Eye Irrit. 2, H319, STOT SE 3, H335

Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First-aid measures

General: In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.

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

Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners. Get medical advice/attention.

Inhalation: Get medical advice/attention immediately. Remove to fresh air away from the accident scene. 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. Take suitable precautions for rescue workers.

Ingestion: If swallowed, have the subject drink as much water as possible. Get medical advice immediately and show the container or label. Keep person warm and at rest. Do not induce vomiting unless explicitly authorized by a doctor.

5. Fire-fighting measures

Extinguishing media: Recommended: alcohol-resistant foam, CO2, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapors and protect those trying to stem the leak.

Extinguishing media not to be used: Do not use water jet. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

Recommendations: Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Appropriate breathing apparatus may be required. Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.

Advice for firefighters: Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

Special protective equipment for firefighters: Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. Accidental release measures

Personal precautions: Exclude sources of ignition and ventilate the area. If there are no contraindications, spray powder with water to prevent the formation of dust. Avoid breathing vapors, mists or gases. Refer to protective measures listed in sections 7 and 8. 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 (see section 13).

Spill: Preferably clean with a detergent. Avoid using solvents.

Environmental precautions: The product must not penetrate into the sewer system or come into contact with surface water or ground water.

Methods and material for containment and cleaning up: Use spark-proof mechanical equipment to collect the leaked product and place it in containers for recovery or disposal. If there are no contraindications, use jets of water to eliminate product residues. Make sure the leakage site is well aired. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

Note: see section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

Handling: Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits. To dissipate static electricity during transfer, earth drum and connect to receiving container with bonding strap. Operators should wear antistatic footwear and clothing and floors should be of the conducting type. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Put on appropriate personal protective equipment (see section 8).

Never use pressure to empty. Container is not a pressure vessel.

Always keep in containers made from the same material as the original one. Comply with the health and safety at work laws.
When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapor in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapor concentration has fallen below the exposure limits.
Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this preparation. Avoid inhalation of dust from sanding. Keep container tightly closed. Keep away from heat, sparks and flame. No sparking tools should be used.
Storage: Store in accordance with local regulations. Observe label precautions. Store in a dry, cool and well-ventilated area.
Keep away from heat and direct sunlight. No smoking. Prevent unauthorized access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not empty into drains. Keep away from sources of ignition.
Keep away from oxidizing agents, strong alkalis, strong acids.

8. Exposure controls/personal protection

Engineering measures: Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapors below the OEL, suitable respiratory protection must be worn.

Ingredient name & Occupational exposure limits

1-Methoxy-2-propanol: **EH40/2005-WELs (12/2011). Skin.**
STEL: 560 mg/m³ 15 minute(s).
STEL: 150 ppm 15 minute(s).
TWA: 375 mg/m³ 8 hour(s).
TWA: 100 ppm 8 hour(s).

2-butoxyethanol: **EH40/2005-WELs (12/2011). Skin.**
STEL: 246 mg/m³ 15 minute(s).
STEL: 50 ppm 15 minute(s).
TWA: 123 mg/m³ 8 hour(s).
TWA: 25 ppm 8 hour(s).

Propan-2-ol: **EH40/2005-WELs (12/2011). Skin.**
STEL: 1250 mg/m³ 15 minute(s).
STEL: 500 ppm 15 minute(s).
TWA: 999 mg/m³ 8 hour(s).
TWA: 400 ppm 8 hour(s).

Tetraethyl Silicate: **ACGIH TLV (6/2013).**
TWA: 85 mg/m³ 8 hour(s).
TWA: 10 ppm 8 hour(s).

Xylene: **EH40/2005-WELs (12/2011).**
STEL: 441 mg/m³ 15 minute(s).
STEL: 100 ppm 15 minute(s).
TWA: 220 mg/m³ 8 hour(s).
TWA: 50 ppm 8 hour(s).

Personal protective equipment

Skin and body: Personnel should wear antistatic professional long-sleeved clothing made of natural fibres or of high-temperature-resistant synthetic fibres and safety footwear.

Hands: Wear suitable gloves. Recommended, gloves (breakthrough time) > 8 hours: Viton, Responder, nitrile rubber, 4H, Teflon. May be used, gloves (breakthrough time) 4 - 8 hours: neoprene, butyl rubber. Not recommended, gloves (breakthrough time) < 1 hour: polyvinyl alcohol (PVA), PVC. For right choice of glove materials, with focus on chemical resistance and time of penetration, seek advice by the supplier of chemical resistant gloves. 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.

Eyes: Use safety eyewear designed to protect against splash of liquids.

Respiratory system: If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use respiratory mask with charcoal and dust filter when spraying this product (as filter combination A2-P2). In confined spaces, use compressed-air or fresh-air respiratory equipment. When use of roller or brush, consider use of charcoal filter.

9. Physical and chemical properties

Physical state: Liquid.

Odor: Characteristic.

Color: Gray.

Flash point: Closed Cup: 16°C (60.8°F).

Vapor density: 2.9 – 3

Relative density: 1,085 Kg/l

Viscosity: N/A

Explosion limits: 1.1 – 23.0%

Solubility: Insoluble in the following materials: cold water and hot water.

Solid content: 67.40 %

10. Stability and reactivity

Stable under recommended storage and handling conditions (see section 7). Hazardous decomposition products: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen. Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

11. Toxicological information

There is no data available on the preparation itself. The preparation has been assessed following the conventional method of the Dangerous Preparations EC Regulation 1272/2008 (CLP) and classified for toxicological hazards accordingly. See sections 2 and 15 for details. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Solvents may cause some of the above effects by absorption through the skin. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, rubescence, edema, pain, lachrymation, drowsiness in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin,

resulting in non-allergic contact dermatitis and absorption through the skin. If splashed in the eyes, the liquid may cause irritation and reversible damage. Swallowing may cause nausea, diarrhea, vomiting, gastro-intestinal irritation and chemical pneumonia.

Product/ingredient name	Result	Species	Exposure
Xylene	Acute LC50 (Inhalation) 20 mg/l LD50 (Oral) 4300 mg/kg TDLo (Dermal) 4300 mg/kg	Rat Rat Rabbit	4 hours
1-methoxy-2-propanol	LD50 (Oral) LD50 (Dermal) 6600 mg/kg	Rat Rabbit	4 hours

12. Ecological information

There is no data available on the preparation itself. Do not allow to enter drains or watercourses.

The preparation has been assessed following the conventional method of the Dangerous Preparations EC Regulation 1272/2008 (CLP) and is not classified as dangerous for the environment.

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
xylene	Mortality	Acute LC50 12000 to 16114 ug/L Fresh water	Fish - Bluegill -Leprosies macrochirus-1.1g	96 hours

Ecological information

Biodegradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Ethyl Silicate	-	-	Readily
Silicic Acid	-	-	Not available
Methoxy-2-propanol	-	-	Readily
Propan-2-ol	-	-	Readily
2-Butoxyethanol	-	-	Readily

Based on available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

Bio accumulative potential

Product/ingredient name	LogKow	BCF	Potential
Tetraethyl Silicate	3.18		low
Methoxy-2-propanol	<1		low
2-butoxyethanol	0.83		low
Propan-2-ol	0.05		low
Xylene	3.12	8.1 – 25.9	low

13. Disposal considerations

Do not allow to enter drains or watercourses. Material and/or container must be disposed of as hazardous waste.

European waste catalogue (EWC): 08 01 11* waste paint and varnish containing organic solvents or other dangerous substances. If this product is mixed with other wastes, this code may no longer apply. If mixed with other wastes, the appropriate code should be assigned. For further information, contact your local waste authority.

14. Transport information

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.

International transport regulations

Proper shipping name: Paint

UN Number: 1263

Class: 3

Packing group: III

Label:

Additional information

ADR / RID: Tunnel restriction code: (D/E)

Hazard identification number: 30

Special provisions: 640E

IMDG: Emergency schedules (EmS): F-E, S-E

IMDG: Transport in accordance with paragraph 2.3.2.5 (applicable to receptacles < 30 liter capacity).

Transport in accordance with ADR/RID, IMDG/IMO and ICAO/IATA and national regulation.

15. Regulatory information

EU regulations: The product is classified and labeled for supply in accordance with EU Regulation (EC) No. 1272/2008 (REACH)

Annex XIV - List of substances subject to authorization

Substances of very high concern

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 EU regulations

Europe inventory: At least one component is not listed

Black List Chemicals: Not listed

Priority List Chemicals: Not determined

Industrial emissions (integrated pollution prevention and control) – Air: Listed

Industrial emissions (integrated pollution prevention and control) – Water: Not listed

Industrial use: The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

16. Other information

Abbreviations and acronyms:

ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

EUH statement = CLP-specific Hazard statement

RRN = REACH Registration Number

CEPE Classification: 1

Full text of abbreviated H statements referred to in sections 2 and 3:

H225 Highly flammable liquid and vapor

H226 Flammable liquid and vapor

H227 Combustible liquid

H301 Toxic if swallowed

H302 Harmful if swallowed

H311 Toxic in contact with skin

H312 Harmful in contact with skin

H315 Causes skin irritation

H319 Causes serious eye irritation

H320 Causes eye irritation

H330 Fatal if inhaled

H332 Harmful if inhaled

H335 May cause respiratory irritation

H336 May cause drowsiness or dizziness

H361 Suspected of damaging fertility or the unborn child

H370 Causes damage to organs

H373 (hearing organs) May cause damage to organs through prolonged or repeated exposure. (hearing organs)

Full text of classifications [CLP/GHS]:

Acute Tox. 3, H311 ACUTE TOXICITY (dermal) - Category 3

Acute Tox. 4, H312 ACUTE TOXICITY (dermal) - Category 4

Acute Tox. 3, H301 ACUTE TOXICITY (oral) - Category 3

Acute Tox. 4, H302 ACUTE TOXICITY (oral) - Category 4

Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2

Eye Irrit. 2, H320 SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2

Flam. Liq. 2, H225 FLAMMABLE LIQUIDS - Category 2

Flam. Liq. 3, H226 FLAMMABLE LIQUIDS - Category 3

Flam. Liq. 4, H227 FLAMMABLE LIQUIDS - Category 4

Skin Irrit. 2, H315 SKIN CORROSION/IRRITATION - Category 2

Acute Tox. 1, H330 ACUTE TOXICITY (inhalation) - Category 1

Acute Tox. 4, H332 ACUTE TOXICITY (inhalation) - Category 4

Rep. Tox. 2, H361 REPRODUCTIVE TOXICITY - Category 2

STOT RE 1, H370 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 1

STOT RE 2, H373 (hearing organs) SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) (hearing organs) - Category 2

STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

STOT SE 3, H336 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

This Safety Data Sheet is prepared in accordance with according to Regulation (EC) No. 1272/2008 [CLP/GHS].

Notice to whom it may concern:

Your attention and information in this MSDS are based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. The information in this MSDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.

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Safety Data Sheet

1. Chemicals and enterprise identification

Product name and code: **PHILAZISIL PHZ 6003 - Comp. B**

Application of the substance: **Two component inorganic zinc ethyl silicate**

Product use: **Coating hardener / Solvent-borne**

Supplier/manufacturer: **Philadelphia Coatings LLC**

Americas Office: 6 Georgian Row, The Woodlands, Texas, TX 77380, USA

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2. Hazards identification

The product is classified as hazardous pursuant to the provisions set forth in EC Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of EC Regulation 1907/2006 (REACH), Annex II and subsequent amendments. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Pictograms:

Signal word: Danger

Hazard classification (GHS) and indication:			
Aquatic environmental hazard/Short-term/Acute	Category 1	H400	Very toxic to aquatic life
Aquatic environmental hazard/Long-term/Chronic	Category 1	H410	Very toxic to aquatic life with long lasting effects

3. Ingredient/composition information

Chemical name	Notes	CAS number	EC number	% by weight	Classification
Zinc Powder – Zinc Dust (stabilized)	-	7440-66-6	231-175-3	≥90	Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=10
Zinc oxide	-	1314-13-2	215-222-5	≤5	Aquatic Acute 1 H400 M=10, Aquatic Chronic 1 H410 M=10

Components not listed are not physical or health hazards as defined in 29 CFR 1910.1200 (Hazard Communication Standard).

4. First-aid measures

General: In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and seek medical advice.

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

Skin contact: Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners. Get medical advice/attention.

Inhalation: Get medical advice/attention immediately. Remove to fresh air away from the accident scene. 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. Take suitable precautions for rescue workers.

Ingestion: If swallowed, have the subject drink as much water as possible. Get medical advice immediately and show the container or label. Keep person warm and at rest. Do not induce vomiting unless explicitly authorized by a doctor.

5. Fire-fighting measures

Extinguishing media: Recommended: alcohol-resistant foam, CO2, chemical powder. For product loss or leakage that has not caught fire, water spray can be used to disperse flammable vapors and protect those trying to stem the leak.

Extinguishing media not to be used: Do not use water jet. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

Recommendations: Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Appropriate breathing apparatus may be required. Cool closed containers exposed to fire with water. Do not release runoff from fire to drains or watercourses.

Advice for firefighters: Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

Special protective equipment for firefighters: Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

6. Accidental release measures

Personal precautions: Exclude sources of ignition and ventilate the area. If there are no contraindications, spray powder with water to prevent the formation of dust. Avoid breathing vapors, mists or gases. Refer to protective measures listed in sections 7 and 8. 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 (see section 13).

Spill: Preferably clean with a detergent. Avoid using solvents.

Environmental precautions: The product must not penetrate into the sewer system or come into contact with surface water or ground water.

Methods and material for containment and cleaning up: Use spark-proof mechanical equipment to collect the leaked product and place it in containers for recovery or disposal. If there are no contraindications, use jets of water to eliminate product residues. Make sure the leakage site is well aired. Check incompatibility for container material in section 7. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

Note: see section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

Handling: Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits. To dissipate static electricity during transfer, earth drum and connect to receiving container with bonding strap. Operators should wear antistatic footwear and clothing and floors should be of the conducting type. In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Put on appropriate personal protective equipment (see section 8).

Never use pressure to empty. Container is not a pressure vessel.

Always keep in containers made from the same material as the original one. Comply with the health and safety at work laws.

When operators, whether spraying or not, have to work inside the spray booth, ventilation is unlikely to be sufficient to control particulates and solvent vapor in all cases. In such circumstances they should wear a compressed air-fed respirator during the spraying process and until such time as the particulates and solvent vapor concentration has fallen below the exposure limits.

Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this preparation. Avoid inhalation of dust from sanding. Keep container tightly closed. Keep away from heat, sparks and flame. No sparking tools should be used.

Storage: Store in accordance with local regulations. Observe label precautions. Store in a dry, cool and well-ventilated area. Keep away from heat and direct sunlight. No smoking. Prevent unauthorized access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not empty into drains. Keep away from sources of ignition. Keep away from oxidizing agents, strong alkalis, strong acids.

8. Exposure controls/personal protection

Engineering measures: Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapors below the OEL, suitable respiratory protection must be worn.

Ingredient name & Occupational exposure limits

Zinc oxide: **EH40/2005-WELs (12/2011). Skin.**

No exposure limit value known.

Derived effect levels

Product/ingredient name	Type	Exposure	Value	Population	Effects
Zinc Powder – Zinc Dust	DNEL	Long term Inhalation	10 - 20 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	68 - 98 mg/kg	Workers	Systemic
Zinc oxide	DNEL	Long term Dermal	83 mg/kg bw/day	Workers	Systemic
	DNEL	Long term Inhalation	5 mg/m³	Workers	Systemic
	DNEL	Long term Dermal	83 mg/kg bw/day	General Population	Systemic
	DNEL	Long term Inhalation	2.5 mg/m³	General Population	Systemic
	DNEL	Long term Oral	0.83 mg/kg bw/day	General population	Systemic

Predicted effect concentrations

Product/ingredient name	Compartment detail	Value	Method detail
Zinc Powder – Zinc Dust	Fresh water	-14.98 - 15.02 mg/l	-
	Marine water	-14.99 - 15.01 mg/l	-
	Fresh water sediment	102.8 - 132.8 mg/kg	-
	Marine water sediment	41.5 - 71.5 mg/kg	-
	Soil	20.6 - 50.6 mg/kg	-
	Sewage Treatment Plant	-14.9 - 15.1 mg/l	-
Zinc oxide	Fresh water	20.6 mg/l	-
	Marine water	6.1 mg/l	-
	Fresh water sediment	117.8 mg/kg dwt	-
	Marine water sediment	56.5 mg/kg dwt	-
	Soil	35.6 mg/kg dwt	-
	Sewage Treatment Plant	52 mg/l	-

Personal protective equipment

Skin and body: Personnel should wear antistatic professional long-sleeved clothing made of natural fibres or of high-temperature-resistant synthetic fibres and safety footwear.

Hands: Wear suitable gloves. Recommended, gloves (breakthrough time) > 8 hours: Viton, Responder, nitrile rubber, 4H, Teflon. May be used, gloves (breakthrough time) 4 - 8 hours: neoprene, butyl rubber. Not recommended, gloves (breakthrough time) < 1 hour: polyvinyl alcohol (PVA), PVC. For right choice of glove materials, with focus on chemical resistance and time of penetration, seek advice by the supplier of chemical resistant gloves. 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.

Eyes: Use safety eyewear designed to protect against splash of liquids.

Respiratory system: If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use respiratory mask with charcoal and dust filter when spraying this product (as filter combination A2-P2). In confined spaces, use compressed-air or fresh-air respiratory equipment. When use of roller or brush, consider use of charcoal filter.

9. Physical and chemical properties

Physical state: Solid.

Odor: Odourless.

Color: N/A.

Flash point: N/A

Vapor density: Highest known value: 5.47 (Air = 1) (zinc oxide).

Density: 7.14 g/cm³

Viscosity: Kinematic (40°C): >20.5 mm2/s

Explosion limits: N/A

Solubility: N/A

10. Stability and reactivity

Stable under recommended storage and handling conditions (see section 7). Hazardous decomposition products: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen. Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

11. Toxicological information

There is no data available on the preparation itself. The preparation has been assessed following the conventional method of the Dangerous Preparations EC Regulation 1272/2008 (CLP) and classified for toxicological hazards accordingly. See sections 2 and 15 for details. Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Solvents may cause some of the above effects by absorption through the skin. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, rubescence, edema, pain, lachrymation, drowsiness in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. If splashed in the eyes, the liquid may cause irritation and reversible damage. Swallowing may cause nausea, diarrhea, vomiting, gastro-intestinal irritation and chemical pneumonia.

Product/ingredient name	Result	Species	Exposure
Zinc Powder – Zinc Dust	TDLo (Dermal) 300 mg/kg Intermittent	Human	72 hours
Zinc oxide	LD50 (Oral) 500 mg/kg LD50 (Dermal) 500 mg/kg	Rabbit Rabbit	24 hours 24 hours

12. Ecological information

There is no data available on the preparation itself. Do not allow to enter drains or watercourses.

The preparation has been assessed following the conventional method of the Dangerous Preparations EC Regulation 1272/2008 (CLP) and is not classified as dangerous for the environment.

Aquatic ecotoxicity

Product/ingredient name	Test	Result	Species	Exposure
Zinc Powder – Zinc Dust	Mortality	Acute LC50 0.1 - 1 mg/l Fresh water EC50 0.1 - 1 mg/l EC50 0.1 - 1 mg/l	Fish - Bluegill -Lepomis Crustacea Daphnia magna Algae/Aquatic Plants Pseudokirchneriella subcapitata	96 hours 48 hours 72 hours
Zinc oxide		Acute LC50 1.1 ppm Fresh water Chronic NOEC 0.02 mg/l Fresh water	Fish - Rainbow trout,donaldson trout - Oncorhynchus mykiss Algae - Green algae - Pseudokirchneriella subcapitata - Exponential growth phase	96 hours 72 hours

Ecological information

Biodegradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
Zinc Powder – Zinc Dust	-	-	Not readily
Zinc oxide	-	-	Not readily

Bio accumulative potential

Product/ingredient name	LogKow	BCF	Potential
Zinc oxide	-	28960	High

Based on available data, the product does not contain any PBT or vPvB in percentage greater than 0,1%.

13. Disposal considerations

Do not allow to enter drains or watercourses. Material and/or container must be disposed of as hazardous waste.

European waste catalogue (EWC): 08 01 11* waste paint and varnish containing organic solvents or other dangerous substances. If this product is mixed with other wastes, this code may no longer apply. If mixed with other wastes, the appropriate code should be assigned. For further information, contact your local waste authority.

14. Transport information

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.

International transport regulations

Proper shipping name: Paint

UN Number: 1263

Class: 3

Packing group: III

Label:

Additional information

ADR / RID: Tunnel restriction code: (D/E)

Hazard identification number: 30

Special provisions: 640E

IMDG: Emergency schedules (EmS): F-E, S-E

IMDG: Transport in accordance with paragraph 2.3.2.5 (applicable to receptacles < 30 liter capacity).

Transport in accordance with ADR/RID, IMDG/IMO and ICAO/IATA and national regulation.

15. Regulatory information

EU regulations: The product is classified and labeled for supply in accordance with EU Regulation (EC) No. 1272/2008 (REACH)

Annex XIV - List of substances subject to authorization

Substances of very high concern

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 EU regulations

Europe inventory: At least one component is not listed

Black List Chemicals: Not listed

Priority List Chemicals: Not determined

Industrial emissions (integrated pollution prevention and control) – Air: Listed

Industrial emissions (integrated pollution prevention and control) – Water: Not listed

Industrial use: The information contained in this safety data sheet does not constitute the user's own assessment of workplace risks, as required by other health and safety legislation. The provisions of the national health and safety at work regulations apply to the use of this product at work.

16. Other information

Abbreviations and acronyms:

ATE = Acute Toxicity Estimate

CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]

EUH statement = CLP-specific Hazard statement

RRN = REACH Registration Number

CEPE Classification: 1

Full text of abbreviated H statements referred to in sections 2 and 3:

H400 Very toxic to aquatic life

H410 Very toxic to aquatic life with long lasting effects

Full text of classifications [CLP/GHS]:

Aquatic Acute 1, H400 SHORT-TERM AQUATIC HAZARD - Category 1

Aquatic Chronic 1, H410 LONG-TERM AQUATIC HAZARD - Category 1

This Safety Data Sheet is prepared in accordance with according to Regulation (EC) No. 1272/2008 [CLP/GHS].

Notice to whom it may concern:

Your attention and information in this MSDS are based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. The information in this MSDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties.