



PRITHVI VOLTGUARD

Category: Three-Component Epoxy Coating System (Part A – Resin / Part B – Pigment / Part C – Hardener)

SECTION 1 — IDENTIFICATION

Product Name	PRITHVI VOLTGUARD
Recommended Use	Part A (Resin): Resin for coatings or adhesives. Part B (Pigment): Pigment for epoxy resins. Part C (Hardener): Curing agent for epoxy resin.

SECTION 2 — HAZARD(S) IDENTIFICATION

GHS Classification	Part A (Resin): Skin Irrit. 2; Eye Irrit. 2A; Skin Sens. 1; Aquatic Chronic 2. Part B (Pigment): Skin Irrit. 2; Eye Irrit. 2; Skin Sens. 1; Muta. 2; Aquatic Chronic 2. Part C (Hardener): Acute Tox. 4 (Oral); Skin Corr. 1B; Skin Sens. 1; Muta. 2; STOT RE 2; Aquatic Acute 3; Aquatic Chronic 2.
Signal Word	Part A (Resin) and Part B (Pigment): Warning. Part C (Hardener): Danger.

Hazard Statements

- Causes skin irritation (Part A – Resin, Part B – Pigment).
- Causes serious eye irritation (Part A – Resin, Part B – Pigment).
- May cause an allergic skin reaction (Part A, Part B and Part C).
- Toxic to aquatic life, with long lasting effects (Part A, Part B and Part C).
- Suspected of causing genetic defects (Part B – Pigment, Part C – Hardener).
- Harmful if swallowed (Part C – Hardener).
- Causes severe skin burns and eye damage (Part C – Hardener).
- May cause damage to organs through prolonged or repeated exposure (Part C – Hardener).
- Harmful to aquatic life (Part C – Hardener).

Precautionary Statements

- Obtain special instructions before use; do not handle until all safety precautions have been read and understood (Part B – Pigment, Part C – Hardener).
- Avoid breathing dust, fume, gas, mist, vapours, spray.
- Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product (especially Part C – Hardener).
- Contaminated work clothing must not be allowed out of the workplace; launder before reuse.
- Avoid release to the environment.
- Wear protective gloves, protective clothing and eye/face protection.



- IF ON SKIN: Wash with plenty of soap and water (Part A/B); for Part C (Hardener) take off immediately all contaminated clothing and rinse skin with water/shower.
- IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- IF SWALLOWED (Part C – Hardener): Rinse mouth. Do NOT induce vomiting. Immediately call a poison center or doctor/physician.
- If skin irritation/rash occurs, if eye irritation persists, or if exposed or concerned: Get medical advice/attention.
- Store locked up (Part B – Pigment, Part C – Hardener). Dispose of contents/container to a hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.

Pictogram(s) Required: Part A (Resin): GHS07, GHS09. Part B (Pigment): GHS07, GHS08, GHS09. Part C (Hardener): GHS05, GHS07, GHS08, GHS09.

Other Hazards: No additional information available.

SECTION 3 — COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name / Ingredient	CAS No.	Conc. (% w/w)	GHS Classification
Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-, homopolymer (Part A – Resin)	25085-99-8	60 – 80%	Aquatic Chronic Cat. 2
Benzyl alcohol (Part A – Resin)	100-51-6	10 – 30%	Not Classified (ecotoxicity)
Phenol, polymer with formaldehyde, glycidyl ether (Part A – Resin)	28064-14-4	5 – 10%	Aquatic Chronic Cat. 2
Titanium dioxide (Part B – Pigment)	13463-67-7	30 – 60%	Not classified; IARC Group 2B
Oxirane, 2,2'-[(1-methylethylidene)bis(4,1-phenyleneoxymethylene)]bis-, homopolymer (Part B – Pigment)	25085-99-8	20 – 40%	Aquatic Chronic Cat. 2
Oxirane, [(2-methylphenoxy)methyl]- (Part B – Pigment)	2210-79-9	5 – 20%	Aquatic Chronic Cat. 2
Carbon black (Part B – Pigment)	1333-86-4	1 – 5%	Not classified; IARC Group 2B
Trimethylhexamethylenediamine (Part C – Hardener)	25620-58-0	15 – 40%	Acute Aquatic Cat. 3; Chronic Aquatic Cat. 3
Propylene glycol diamine, 2-amino-, diether with Propylene (Part C – Hardener)	9046-10-0	10 – 30%	Acute Aquatic Cat. 3; Chronic Aquatic Cat. 2
Phenol, 4,4'-(1-methylethylidene)bis-, polymer with (chloromethyl)oxirane, reaction products with 2,2,4(or 2,4,4)-trimethyl-1,6-hexanediamine (Part C – Hardener)	111850-23-8	10 – 30%	Acute Aquatic Cat. 3; Chronic Aquatic Cat. 3
Isophorone diamine (Part C – Hardener)	2855-13-2	10 – 30%	Aquatic Chronic Cat. 3



Chemical Name / Ingredient	CAS No.	Conc. (% w/w)	GHS Classification
Phenol (Part C – Hardener)	108-95-2	5 – 13%	Aquatic Acute Cat. 3; Aquatic Chronic Cat. 2

Note: Exact composition is withheld as a trade secret in accordance with applicable regulations.

SECTION 4 — FIRST-AID MEASURES

Inhalation	Part A/B (Resin/Pigment): If breathing is difficult, remove to fresh air and keep at rest in a position comfortable for breathing. Get medical advice/attention if you feel unwell (Part B: call a poison center or doctor if respiratory symptoms occur). Part C (Hardener): Remove to fresh air and keep at rest. Immediately call a POISON CENTER or doctor/physician.
Skin Contact	Part A/B (Resin/Pigment): Immediately flush skin with plenty of water. Remove contaminated clothing and shoes; wash before reuse. Get medical advice/attention if irritation or rash occurs. Part C (Hardener): Remove all contaminated clothing immediately. Rinse skin with water/shower; wash clothing before reuse. Immediately call a POISON CENTER or doctor/physician (causes severe skin burns).
Eye Contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Get medical attention immediately, particularly after contact with Part C (Hardener).
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention if you feel unwell (Part C – Hardener: immediately call a POISON CENTER or doctor/physician).
Most Important Symptoms / Effects	Part A (Resin): Skin/eye irritation, possible allergic skin reaction; may cause respiratory tract irritation; may cause stomach distress if swallowed. Part B (Pigment): Skin/eye irritation, possible allergic skin reaction; may cause allergy/asthma symptoms or breathing difficulties if inhaled. Part C (Hardener): Causes severe skin burns and serious eye damage; may cause respiratory tract irritation; harmful if swallowed (burns/irritation of mouth, throat and GI tract, stomach distress, nausea, vomiting).
Indication of Immediate Medical Attention	Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

SECTION 5 — FIRE-FIGHTING MEASURES

Suitable Extinguishing Media	Foam, carbon dioxide, dry chemical (Part C – Hardener: also sand, limestone).
Unsuitable Extinguishing Media	Do not use a heavy water stream.
Specific Hazards Arising from the Product	Combustion products may include oxides of carbon and phenolics (Part A/B – Resin/Pigment); oxides of carbon, oxides of nitrogen, amines, ammonia and nitric acid (Part C – Hardener). When mixed with sawdust, wood chips or other cellulosic material, Part C (Hardener) can undergo spontaneous combustion under certain conditions.



Special Protective Equipment for Firefighters

Keep upwind of fire. Wear full fire-fighting turn-out gear (full Bunker gear) and self-contained breathing apparatus (SCBA). Cool closed containers exposed to fire with water spray.

SECTION 6 — ACCIDENTAL RELEASE MEASURES

Personal Precautions	Use personal protection recommended in Section 8. Isolate the hazard area and deny entry to unnecessary and unprotected personnel.
Environmental Precautions	Prevent entry into soil, ditches, sewers, waterways and/or groundwater.
Methods for Containment & Cleanup	Stop leak if safe to do so. Contain and/or absorb spill with inert material (e.g. sand, vermiculite), then place in a suitable container. Do not flush to sewer or allow to enter waterways. Scoop up material and place in a disposal container; provide ventilation; clean contaminated surfaces thoroughly. For Part C (Hardener): do not absorb in sawdust, paper, cloth or other combustible absorbents.

SECTION 7 — HANDLING AND STORAGE

Precautions for Safe Handling	Avoid contact with skin and eyes. Avoid breathing dust, fume, gas, mist, vapours, spray. Do not swallow. Handle and open containers with care. Do not eat, drink or smoke when using this product. When Part A/B (Resin/Pigment) is mixed with epoxy curing agents, or when Part C (Hardener) is mixed with epoxy resin, an exothermic reaction occurs which, in large masses, can produce enough heat to damage or ignite surrounding materials and emit fumes/vapors that vary widely in composition and toxicity.
Conditions for Safe Storage	Keep out of the reach of children. Keep containers tightly closed. Store in a dry, cool, well-ventilated place, away from heat and direct sunlight. Storage temperature: Part A/B (Resin/Pigment) 4–49°C (40–120°F); Part C (Hardener) 4–32°C (40–90°F).
Incompatible Materials	Strong acids, bases, amines and mercaptans (Part A/B – Resin/Pigment); acids, oxidizing materials, halogenated compounds, nitric acid, bleach, peroxides (Part C – Hardener).

SECTION 8 — EXPOSURE CONTROLS / PERSONAL PROTECTION

Ingredient	Exposure Limit	Source
Benzyl alcohol (Part A – Resin)	10 ppm (TWA)	AIHA WEEL
Titanium dioxide (Part B – Pigment)	10 mg/m ³ (TWA); OSHA PEL 15 mg/m ³ (total dust); IDLH 5000 mg/m ³ ; NIOSH REL 2.4 mg/m ³ (fine TiO ₂) / 0.3 mg/m ³ (ultrafine TiO ₂)	ACGIH / OSHA / NIOSH / IDLH
Carbon black (Part B – Pigment)	3 mg/m ³ (TWA, inhalable particulate); OSHA PEL 3.5	ACGIH / OSHA / NIOSH / IDLH



Ingredient	Exposure Limit	Source
	mg/m ³ ; IDLH 1750 mg/m ³ ; NIOSH REL 3.5 mg/m ³ (0.1 mg/m ³ in presence of PAHs)	
Phenol (Part C – Hardener)	19 mg/m ³ / 5 ppm (TWA); NIOSH REL ceiling 60 mg/m ³ / 15.6 ppm	ACGIH / OSHA / NIOSH

Engineering Controls	Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.
Eye / Face Protection	Wear eye/face protection (Part C – Hardener: properly fitted dust- or splash-proof chemical safety goggles and a face shield).
Skin Protection	Wear chemically resistant protective gloves and suitable protective clothing.
Respiratory Protection	In case of insufficient ventilation, wear suitable respiratory equipment. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

SECTION 9 — PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Part A (Resin): Viscous liquid, colourless. Part B (Pigment): Paste; colour as per RAL Colour Card. Part C (Hardener): Liquid, amber.
Odour	Part A (Resin): Mild. Part B (Pigment): Mild. Part C (Hardener): Ammonia.
pH	Part C (Hardener): 10.3. (No data available for Part A / Part B.)
Initial Boiling Point & Range	Part A, Part B and Part C: >204°C (>400°F).
Flash Point	Part A, Part B and Part C: >93°C (>200°F) (estimated / based on ingredient data).
Flammability (Solid/Gas)	Non-flammable (Part A, Part B and Part C).
Vapour Density	Part A (Resin): Heavier than air (estimated). Part B (Pigment): <1 (estimated). (No data for Part C.)
Relative Density	Part A (Resin): 1.15. Part B (Pigment): 1.9. Part C (Hardener): 0.98.
Viscosity	Part A (Resin): 869.5 mm ² /s @ 20°C (kinematic). Part C (Hardener): 265.3 mm ² /s @ 20°C (kinematic). (No data for Part B.)
VOC Content	Part C (Hardener): 9.13 g/L (0.08 lb/gal). (Not specified for Part A / Part B.)

SECTION 10 — STABILITY AND REACTIVITY

Reactivity	No dangerous reaction known under conditions of normal use.
Chemical Stability	Stable under normal storage conditions.



Possibility of Hazardous Reactions	No dangerous reaction known under conditions of normal use. Part A/B (Resin/Pigment): a mass of more than 1 lb of product plus an aliphatic amine will cause irreversible polymerization with significant heat buildup; strong acids, bases, amines and mercaptans can cause polymerization. Part C (Hardener): a mass of more than 1 lb of product plus an epoxy resin will cause irreversible polymerization with significant heat buildup and pressure.
Conditions to Avoid	Heat; incompatible materials.
Incompatible Materials	Strong acids, bases, amines, mercaptans (Part A/B – Resin/Pigment); acids, oxidizing materials, halogenated compounds, nitric acid, bleach, peroxides (Part C – Hardener).
Hazardous Decomposition Products	Oxides of carbon, phenolics (Part A/B – Resin/Pigment); oxides of carbon, oxides of nitrogen, amines, ammonia, nitric acid (Part C – Hardener).

SECTION 11 — TOXICOLOGICAL INFORMATION

Acute Toxicity — Oral	Not classified (Part A/B). Harmful if swallowed (Part C – Hardener). Representative LD50 (oral, rat): epoxy resin base >15,000 mg/kg; benzyl alcohol 1620 mg/kg; titanium dioxide >5000 mg/kg; trimethylhexamethylenediamine 910 mg/kg; isophorone diamine 1030 mg/kg; phenol 317 mg/kg.
Acute Toxicity — Dermal	Not classified. Representative LD50 (dermal, rabbit): epoxy resin base >23,000 mg/kg; isophorone diamine >2000 mg/kg; phenol 630 mg/kg.
Acute Toxicity — Inhalation	Not classified. Representative LC50 (inhalation, rat): benzyl alcohol 4.18 mg/L/4h; titanium dioxide >6.82 mg/L/4h; phenol 0.9 mg/L/8h.
Skin Corrosion / Irritation	Part A/B (Resin/Pigment): Causes skin irritation. Part C (Hardener): Causes severe skin burns.
Serious Eye Damage / Irritation	Part A/B (Resin/Pigment): Causes serious eye irritation. Part C (Hardener): Causes serious eye damage.
Respiratory / Skin Sensitisation	May cause an allergic skin reaction (Part A, Part B and Part C).
Carcinogenicity	Not classified for the product overall. Titanium dioxide and carbon black (Part B – Pigment ingredients) are IARC Group 2B – possibly carcinogenic to humans, and are on the OSHA Hazard Communication carcinogen list. Phenol (Part C – Hardener ingredient) is IARC Group 3 – not classifiable.
Reproductive Toxicity	Not classified.

SECTION 12 — ECOLOGICAL INFORMATION

Ecotoxicity	Toxic to aquatic life with long lasting effects. Representative data: benzyl alcohol (Part A) LC50 fish (96h) 10–460 mg/L, EC50 Daphnia (48h) 23 mg/L; isophorone diamine (Part C) EC50 Daphnia (48h) 14.6–21.5 mg/L; phenol (Part C) LC50 fish (96h) 11.9–50.5 mg/L, EC50 Daphnia (48h) 4.24–15.5 mg/L.
Persistence & Degradability	Not established.



Bioaccumulative Potential	Not established. Partition coefficient n-octanol/water: benzyl alcohol 1.1; trimethylhexamethylenediamine 0.77 (23°C); isophorone diamine 0.79 (23°C); phenol 1.5 (no significant bioaccumulation in fish).
Mobility in Soil	No additional information available.
Other Adverse Effects	No known effects on global warming from this product. Avoid release to the environment.

SECTION 13 — DISPOSAL CONSIDERATIONS

Disposal Methods	This material must be disposed of in accordance with all local, state, provincial and federal regulations. The generation of waste should be avoided or minimized wherever possible. Avoid release to the environment.
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SECTION 14 — TRANSPORT INFORMATION

UN Number	Part A/B (Resin/Pigment): Not regulated (DOT/TDG); UN 3082 (sea/air transport). Part C (Hardener): UN 2735 (DOT/TDG, sea and air transport).
UN Proper Shipping Name	Part A/B (Resin/Pigment): Environmentally Hazardous Substance, Liquid, N.O.S. (sea/air transport only – not regulated under DOT/TDG). Part C (Hardener): Polyamines, Liquid, Corrosive, N.O.S. (Polyoxypropylenediamine).
Transport Hazard Class(es)	Part A/B (Resin/Pigment): Class 9 (sea/air transport only; not regulated under DOT/TDG). Part C (Hardener): Class 8.
Packing Group	Part A/B (Resin/Pigment): III. Part C (Hardener): II.
Environmental Hazards	Marine pollutant: Yes (Part A, Part B and Part C).

SECTION 15 — REGULATORY INFORMATION

All components of this product are listed, or excluded from listing, on the United States EPA TSCA inventory and the Canadian DSL / NDSL inventories. Selected ingredients carry additional US regulatory flags: Phenol (Part C – Hardener, CAS 108-95-2) is listed under US SARA Section 302 and is subject to SARA Section 313 reporting. California Proposition 65 lists trace quantities of Epichlorohydrin (Part A – Resin) and Propylene oxide (Part C – Hardener) as substances known to the State of California to cause cancer and/or reproductive or developmental harm; Titanium dioxide and Carbon black (Part B – Pigment) are listed under California Proposition 65 as carcinogens. Several ingredients also appear on US New Jersey and Pennsylvania Right-to-Know hazardous substance lists. Users should independently verify applicable regulatory status under Indian and other local / international regulations, e.g. the Manufacture, Storage and Import of Hazardous Chemicals Rules, Bureau of Indian Standards (BIS) classification, and other regional GHS implementations, as applicable.

Abbreviations: CAS – Chemical Abstracts Service; GHS – Globally Harmonized System; PPE – Personal Protective Equipment; SCBA – Self-Contained Breathing Apparatus; TWA – Time-Weighted Average; PEL – Permissible Exposure Limit; REL – Recommended Exposure Limit; IDLH – Immediately Dangerous to Life or Health; LD50/LC50/EC50 – Median Lethal/Effective Dose or Concentration; IARC – International Agency for Research on Cancer; VOC – Volatile Organic Compound; w/w – weight by weight.