

Glenmarc Industries Inc. 2001 S. Blue Island Ave Chicago IL 60608

312-243-0800 fax 312-243-4670 email: info@glenmarc.com www.glenmarc.com

Material Safety Data Sheet

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SECTION 1

MANUFACTURER:
Glenmarc Industries Inc.
2001 S. Blue Island Ave.
Chicago IL 60608

Emergency Phone:
800-255-3924
Chemtel
Non-emergency Phone:
800-323-5350

PRODUCT NAME:
White Pigment

SECTION 2 COMPOSITION

| | CAS# | Concentration (%) |
|---------------------------------------|---------------|-------------------|
| Acrylic polymer | Not Hazardous | 8-10 |
| Residual monomers | Not required | <.3 |
| Pigment White | 13463-67-7 | 64-66* |
| Amorphous silica | 7631-86-9 | 64-66* |
| Aluminum hydroxide | 21645-51-2 | 64-66* |
| Propylene glycol methyl ether acetate | 108-65-6 | 22-24 |
| Mineral spirits | 8052-41-3 | 2-3 |

Note: the * asterisk denotes 2 or more components whose identical concentrations sum to the total indicated to the left of the asterisk.

SECTION 3 HAZARDS IDENTIFICATION

Appearance: white liquid, opaque

Odour: sweet odor

Hazard Summary: Warning:

Flammable liquid and vapor

Inhalation of solvent vapor or mist can cause:

Irritation of nose throat and lungs

Headache

Nausea

Central nervous system effects

Moderate eye irritation

Moderate skin irritation

Prolonged or repeated overexposure to propylene glycol monomethyl ether acetate can cause liver damage, kidney damage or blood disorders.

Amorphous silica can cause pulmonary inflammation and subsequent development of chronic lung disease.

Prolonged or repeated overexposure to titanium dioxide may cause lung effects.

Primary route of entry: inhalation, eye contact, skin contact and dermal absorption

Inhalation: can cause irritation of nose, throat, and lungs, headache, nausea, dizziness, vomiting,

Drowsiness, lack of coordination, central nervous system (CNS) effects. Repeated or prolonged

Overexposure to solvent vapor can cause the following: damage to the upper respiratory system.

Ingestion: Possibly harmful if swallowed. The solvents in this material can cause the following:

Headache, nausea, vomiting, diarrhea, drowsiness, dizziness, lack of coordination.

Skin contact: solvents can cause slight to moderate irritation. Prolonged or repeated skin contact

Can cause defatting and drying of skin which can lead to irritation and dermatitis. The solvents can be absorbed through intact skin.

Eye contact: slight to moderate irritation, possible corneal injury

Chronic Exposure:

Prolonged or repeated overexposure to propylene glycol monomethyl ether acetate can cause liver damage, kidney damage or blood disorders.

Amorphous silica can cause pulmonary inflammation and subsequent development of chronic lung disease.

Prolonged or repeated overexposure to titanium dioxide may cause lung effects.

| | | |
|------------------|-------|---|
| White Pigment: | ACGIH | Not classified as human carcinogen |
| White Pigment: | IARC | Possible carcinogen |
| White Pigment: | NIOSH | Possible carcinogen |
| Amorphous silica | IARC | Classification not possible from current data |
| Amorphous silica | IARC | Inadequate data |
| Mineral spirits | IARC | Classification not possible from current data |

SECTION 4 FIRST AID

Inhalation: remove to fresh air. Give artificial respiration if breathing has stopped. Consult physician

Ingestion: drink 1-2 glasses of water. Consult physician. Never give anything by mouth to an unconscious person.

Skin contact: Remove contaminated clothing. Wash affected area with soap and water. Do not take clothing home to be laundered. Consult physician if irritation persists.

Eye contact: Flush eyes with water as precaution. Consult physician if irritation persists.

Notes to Physician:

If swallowed, careful evacuation of the stomach is advisable. No specific antidote, treat symptomatically.

SECTION 5 FIRE-FIGHTING MEASURES

Flash point and method used: 33C (92.3F) Tag closed cup

Ignition Temperature: 333C (631F) PM Acetate

Flammable limits/%Volume in Air lower-1.5% (V) PM acetate Upper- 7% (V) Acetate

Extinguishing Media: polar solvent (alcohol) foam, CO₂, dry chemicals, water spray

Thermal decomposition: Combustion generates toxic fumes of the following:

Carbon oxides, Special Fire Fighting Procedures and Precautions: Do not enter confined fire space without proper protective equipment including a NIOSH approved self-contained breathing apparatus. Cool fire exposed container with water

Unusual Fire and Explosion Hazards: Vapors can travel to a source of ignition and flash back. Heated material can form flammable or explosive vapors with air. Closed containers may rupture via pressure build up when exposed to fire or extreme heat.

Other information: move containers promptly out of fire zone. If removal is impossible, cool containers with water spray. Remain upwind, avoid breathing smoke, contain run off.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Spill or leak procedures:

Use cautious judgment when cleaning up large spills.

Large spills:

Eliminate all ignition sources including those beyond the immediate spill area.

Ventilate the area

Avoid breathing vapor.

Floor may be slippery, avoid falls

Wear protective clothing as appropriate. Shut off sources of leak if safe to do so. Dike and contain. Remove with vacuum trucks or pump to storage/salvage vessels. Soak up residue with an absorbent such as clay, sand or other suitable material. Dispose of properly. Flush area with water to remove trace residue.

Caution: keep spills and cleanup runoff out of municipal sewers and open bodies of water.

Small spills: Take up with an absorbent material and dispose of properly.

Incinerate or bury in landfill according to federal, state and local guidelines.

SECTION 7 HANDLING/STORAGE

Keep container tightly closed. Store in cool, dry place.

Avoid temperature extremes during storage. Ambient temperature preferred.

Vapors can be evolved when material is heated during processing operations.

Appropriate protective equipment must be worn when handling spill of this material: See section 8. If exposed to material during clean-up operations, see Section 4.

Wash after handling and shower at end of work period.

Use non sparking tools and grounding cable when transferring.

CONTAINERS MAY BE HAZARDOUS WHEN EMPTY

Since empty containers retain product residue, follow all the MSDS and label warnings even after container is empty. Residual vapors in empty containers may explode on ignition. DO NOT cut, drill, grind or weld on or near an empty container.

Refer to applicable local and state and federal regulations for disposal.

Dispose empty container in a sanitary landfill or by incineration as allowed by state and local authorities.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION:

| Exposure Limits: | TWA | STEL | | |
|--------------------|-----------------------|---------------------|-------------|--------|
| White Pigment | 2.0 mg/m3 | 10mg/m3 | | |
| | ACGIH | TWA | 10MG/M3 | |
| | OSHA-TRANS | PEL | 15MG/M3 | |
| | Z3 | Respirable fraction | | |
| | Z3 | Total dust | | |
| | Z1A | TWA total dust | 10mg/m3 | |
| | TWA | | | |
| Amorphous Silica | 2.0 mg/m3(respirable) | | | |
| | 6mg/m3 (TWA total) | | | |
| | STEL (respirable) | 0.6mg/m3 | | |
| | ACGIH | TWA | 10MG/M3 | |
| | ACGIHLIS_P | | | |
| | Z3 | TWA | 0.8MG/M3 | |
| Aluminum Hydroxide | Z1A | TWA total dust | 6mg/m3 | |
| | TWA total dust | | 5mg/m3 | |
| Mineral Spirits | TWA | | 100ppm | |
| | STEL | | 200ppm | |
| | ACGIH TWA | | 100ppm | |
| | OSHA_TRANS | PEL | 2,900 mg/m3 | 500ppm |

Respiratory protection (NIOSH approved organic vapor respirators) only required if ventilation is inadequate.

NIOSH approved respirators or self-contained breathing apparatus should be used in confined spaces.

None required if the airborne concentrations are maintained below the exposure limit listed in Exposure limit information. Up to 10 times the exposure limit: wear a properly fitted NIOSH approved half mask, air purifying respirator. Up to 50 times the exposure limit: wear a properly fitted NIOSH approved full faceplate, air purifying respirators should be equipped with NIOSH approved (or equivalent) organic vapor cartridges and N95 filters. If oil mist is present, use R95 or P95 filters.

Ventilation: local mechanical exhaust

Protective gloves: impervious gloves : nitrile rubber, butyl-rubber

Eye protection: safety glasses w/ side shields (ANSI z87.1 or approved equivalent)

Other: safety shower and eye bath should be available. Use protective clothing.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Physical appearance: liquid, white, opaque, sweet odor

Boiling Point: 146C(296.2F) PM Acetate

Melting Point: -75C (103F) PM Acetate

Flash point 33C (92.3F) Tag closed cup

Ignition temperature: 333C (631F) Tag closed cup

Upper explosion limit: 1.5% (V) PM Acetate

Lower explosion limit: 7% (V) PM Acetate

Vapor Pressure: 2.8mmHg at 20C (68F) PM Acetate

Relative vapor density: 4.6 PM Acetate

Solubility in Water: no

Relative Density: 1.90

Percent Volatile: 24-27%

Evaporation rate: 0.3 PM Acetate

Percent solid by weight: 100%

Note: the physical data presented above are typical values and should not be construed as a specification.

SECTION 10 STABILITY AND REACTIVITY

Stability: Stable

Hazardous Polymerization: May occur

Conditions and Materials to avoid:

Avoid contact with strong acids, amines, mercaptans, bases in uncontrollable amounts.

Hazardous Decomposition Products: non known

Product will not undergo polymerization

SECTION 11 TOXICOLOGICAL INFORMATION

OSHA permissible exposure limit: OSHA limits have not been established for this product

ACGIH threshold limit value: ACGIH limits have not been established for this product.

SECTION 12 ECOLOGICAL INFORMATION

No data available for this product

SECTION 13 DISPOSAL CONSIDERATIONS

Incinerate liquid and contaminated solids in accordance with local, state and federal regulations.

Waste classification: when a decision is made to discard this material as supplied, it does not meet RCRA's characteristic definition of ignitability, corrosivity or reactivity and is not listed in 40 CFR 261.33. The toxicity characteristic (TC), however has not been evaluated by the toxicity characteristic leaching procedure (TCLP)

SECTION 14 TRANSPORT INFORMATION

Not regulated by D.O.T.

IMO/IMDG Not regulated (not dangerous for transport)

SECTION 15 REGULATORY INFORMATION

Workplace classification

This product is considered hazardous under the OSHA hazard communication standard (29 CFE 1910,1200).

This product is a "controlled product" under the Canadian workplace hazardous materials information system (WHMIS).

SARA TITLE III: Section 311/312 categorizations (40CFR372)

This product does not contain a chemical which is listed in Section 313 or above the minimum concentrations. CERCLA Information (40CFR302.4)

Releases of this material to air, land or water are not reported to the National Response Center under the comprehensive environmental response, compensation and liability act (CERCLA) or to the state and local emergency planning committees under the superfund amendments and reauthorization act (SARA) title III section 304.

US Toxic Substance Control Act(TSCA) All components of this product are in compliance with the inventory listing requirements of the US toxic substances control act (TSCA) chemical substances inventory.

Pennsylvania

Any material listed as "not hazardous" in the CAS REG NO. column of section 2, composition/information on ingredients, of this MSDS is a trade secret under the provisions of the Pennsylvania worker and community right to know.

California (Proposition 65)

This product contains a component or components known to the state of California to cause cancer:

Components: Carbon Black 1333-86-4

SECTION 16 OTHER INFORMATION

Hazard Rating:

| | | |
|------|------------|---|
| HMIS | Health | 1 |
| | Fire | 0 |
| | Reactivity | 0 |

Legend:

ACGIH American Conference of Governmental Industrial Hygienists

BAC Butyl acetate

OSHA Occupational Safety and Health Administration

PEL Permissible Exposure Limit

STEL Short Term Exposure Limit

TLV Threshold limit value

TWA Time weighted average

I Bar denotes revision from prior MSDS

The information contained herein is based on data considered accurate. However, no warranty is expressed or implied regarding the accuracy of these data or the results to be obtained from the use thereof. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process unless specified in the text.

Vendor assumes no responsibility for injury to vendee or third persons proximately caused by the material if reasonable safety procedures are not adhered to as stipulated in the data sheet. Additionally, vendor assumes no responsibility for injury to vendee or third persons proximately caused by abnormal use of the material even if reasonable safety procedures are followed. Furthermore, vendee assumes the risk to his use of the material.