

PRODUCT NAME(S): ThermalGuard OC 1.0P, B Component
SECTION 1 – IDENTIFICATION

Manufacturer's Info:
Rhino Linings Corporation
 9747 Businesspark Avenue
 San Diego, CA 92131

Product name: ThermalGuard OC 1.0P, Part B
Product Category: Polyurethane Resin Blend
Recommended use: For 2 component SPF

Information phone: (858) 450 0441
Emergency contact: CHEMTREC (800) 424 9300

SECTION 2 – HAZARD(S) IDENTIFICATION
OSHA Hazard Communication Standard:

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

GHS-Label Elements: **Signal Word:**
 DANGER

Pictogram(s):


GHS 05

GHS 08

Classification of the substance or mixture:

Hazard Class	Category	Hazard Statement Codes	Hazard Statements
Acute Toxicity, Oral	4	H302	Harmful if swallowed
Acute Toxicity, Dermal	5	H313	May be Harmful in contact with skin
Skin corrosion / irritation	1A-1C	H314	Causes severe skin burns and eye damage.
Serious eye damage / Eye irritation	2B	H320	Causes eye irritation.

Precautionary Statements:

Prevention:	P280 P264 P270 P260 P273	Wear protective gloves/ protective clothing / eye protection/ face protection. Wash exposed area with plenty of water and soap thoroughly after handling. Do not eat, drink, and smoke when using this product. Do not breathe mist, vapors, spray. Avoid release to the environment.
Response:	P301 + P330 + P331 P303 + P361 + P352 P304 + P340 P305 + P351 + P338 P310 P314 P332 + P313 P363	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Wash with plenty of soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/physician. Get medical advice/attention if you feel unwell. If skin irritation occurs: Get medical advice/attention. Wash contaminated clothing before reuse.
Storage:	P405	Store locked up.
Disposal:	P501	Dispose of contents/container to hazardous or special waste collection point.

SECTION 3 – COMPOSITION / INFORMATION ON INGREDIENTS

Components	CAS #	EINECS #	Concentration, %
Halogenated Phosphate	Trade Secret	N/A	15 – 35%
Amine Catalyst Blend	Trade Secret	N/A	3 – 10%

PRODUCT NAME(S): ThermalGuard OC 1.0P, B Component**SECTION 4 – FIRST-AID MEASURES****Description of First Aid measures:**

- Inhalation:** Immediate medical attention required. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing.
If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person should be kept under medical surveillance for 48 hours.
- Skin:** Immediate medical attention required. Call a poison center or physician. Chemical burns must be treated promptly by a physician or dermatologist. Wash material off of the skin with plenty of soap and water for at least 15 minutes.
Remove contaminated clothing and shoes immediately and wash them before reuse.
- Eye:** Immediate medical attention required. Call a poison center or physician. Chemical burns must be treated promptly by a physician or ophthalmologist.
Rinse cautiously with water for several minutes, especially under the eyelids. Remove contact lenses, if present and easy to do. Continue rinsing for at least 15 minutes. Do not rub eyes in order to prevent cornea injury.
- Ingestion:** Immediate medical attention required. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Remove dentures if any.
If the exposed person is conscious, rinse mouth with water and then give plenty of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Do not induce vomiting unless directed to do so by medical personnel.
If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

Most important symptoms/effects, acute and delayed:

See Section 11.

General advice for First Aid responders:

No action should be taken involving any personal risk or without suitable training. If potential for exposure exist refer to Section 8 for specific personal protective equipment. Show this SDS to physician.

Note to physician: Antidote: Specific antidotes or neutralizers do not exist. Treatment should be supportive and based on the judgment of the physician in response to the reaction of the patient. Recommended medical monitoring for at least 24 hours.

SECTION 5 – FIRE-FIGHTING MEASURES

Suitable extinguishing media: Water fog or fine spray, alcohol-resistant foam, dry chemical or carbon dioxide fire extinguishers.

Unsuitable extinguishing media: Direct water stream may cause frothing, splattering of burning material and spreading of fire.

Specific hazards arising from the chemical: Material may be ignited only if preheated to high temperatures (such in fire conditions). Fire in vicinity poses risk of pressure build-up and rupture. Containers at risk from fire should be cooled with water and, if possible, removed from the danger area. Hazardous Combustion products: Carbon dioxide, Carbon monoxide, nitrogen oxides, lower molecular weight organic molecules.

Special Protective Equipment and Precautions for fire-fighters: Wear NIOSH or OSHA approved self-contained breathing apparatus in positive pressure mode with full face piece and full protective gear. Isolate the scene by removing all persons from the incident area. No action should be taken involving any personal risk or without suitable training. Spilled product will cause very slippery walking surfaces.

SECTION 6 – ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures:**

For non-emergency personnel: No action shall be taken involving any personal risk or without suitable training.

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Keep unnecessary and unprotected personnel from entering. Ensure adequate ventilation/exhaust extraction. Avoid breathing vapors or mist during clean up. Use protective equipment as described in Section 8. Do not touch or walk through spilled material; spilled material may cause a slipping hazard.

Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. Inform the relevant authorities if the product has caused environmental pollution. Water polluting material. May be harmful to the environment if released in large quantities. See Section 12.

Methods and materials for containment and cleaning up: Remove mechanically; cover the remainder with non-combustible absorbent material (e.g. sawdust, sand, earth, vermiculite or diatomaceous earth). After approximately one hour, transfer into properly labeled chemical waste containers. Cover container, but do not seal, and remove from work area. Keep in a well ventilated area. Wash the spill site with soap and water.

For major spills: Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or contain and collect with an absorbent material as described in the previous paragraph.

Residues from spill cleanup may continue to be regulated under provisions of RCRA and require storage and disposal as hazardous waste. For major spills, see Section 1 for the Emergency contact; for further disposal measures, see Section 13.

SECTION 7 – HANDLING AND STORAGE

Precautions for safe handling: Protect chemical from atmospheric moisture. Avoid prolonged exposure to heat and air. Keep away from sources of ignition. Do not reseal if contamination is suspected.

Use adequate ventilation to keep airborne levels below the exposure limits. Do not breathe vapors and mists. Wear respiratory protection if material is heated, mixed, sprayed or used in a confined space. Avoid contact with skin and eyes. Wear appropriate eye and skin protection. Wash hands thoroughly after handling. Hands and/or face should be washed before eating, drinking and smoking and at the end of the shift. Remove contaminated clothing and protective equipment before entering eating areas.

Conditions for safe storage, including any incompatibilities: 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. 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. Protect it against physical damage and moisture. Normal temperature and pressures do not affect the material. Keep liquid away from heat, sparks and flame. Do not cut, drill, grind, weld or perform similar operations on or near containers. Use appropriate containment to avoid environmental contamination.

Storage stability: Stable under normal conditions.

Storage temperature: 60 - 90°F (16 – 32°C)

Employee education and training in the safe use and handling of this product are required under the OSHA Hazard Communication Standard 29 CFR 1910.1200. Employees and consumers should be warned of health risks associated with product use.

SECTION 8 – EXPOSURE CONTROLS / PERSONAL PROTECTION

Control Parameters/Occupational exposure limit values: Not available for mixture. Results for components:

Components	CAS #	OSHA PEL	ACGIH TLV	NIOSH
Halogenated Phosphate	Trade Secret	No data	No data	No data
Amine Catalyst Blend	Trade Secret	No data	TLV: 0.05 ppm STEL: 0.15 ppm	No data

Appropriate engineering controls: Good local and general ventilation should be sufficient to control worker exposure to airborne contaminants below recommended exposure limits. Local exhaust may be required in some areas.

Personal protective equipment:

Eye/face protection:

When directly handling liquid product, eye protection is required. Examples of eye protection include safety glasses and goggles or full face shield when there is a greater risk of splash. Contact lenses should not be worn when working with chemicals.

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Avoid contact with skin. Impervious gloves (nitrile butyl rubber, neoprene and PVC) should be worn always when working with this product. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact. Dispose contaminated gloves after use in accordance with good laboratory practices. Body should be covered with appropriate clothing (apron, arm covers or full body suit) depending on the task being performed and the risks involved. Protective clothing should be selected and used in accordance with "Guidelines for the Selection of Chemical Protective Clothing" published by ACGIH. Wash contaminated clothing before reuse. Store work clothing separately. Appropriate footwear should be also selected based on the task being performed and the risks involved.

Respiratory protection:

Use local or general ventilation to control exposures below applicable exposure limits. When ventilation is inadequate, use either an atmosphere supplying respirator or NIOSH or OSHA approved air-purifying respirator for organic vapors. Respirator must be properly fitted and its selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Additional Protective Measures: Educate and train employees in safe handling of this product. Follow all label instructions. As a general hygiene practice, wash hands and face after use. Emergency eyewash fountains and safety shower should be in close proximity as a matter of good practice.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Amber Liquid
Odor:	Ammonia-like
Odor threshold:	Not available.
pH:	10
Melting point/ freezing point:	< - 30°C (<-22°F) becomes highly viscous at low temperatures
Initial boiling point and boiling range:	Decomposed before boiling
Flash point:	Closed cup: >185°C (365°F)
Evaporation rate:	Negligible
Flammability (solid, gas):	Not available
Upper/ lower flammability or explosive limits:	Not available
Vapor pressure:	Not available
Vapor density:	Not available
Relative density:	1.09 @ 25°C (77°F)
Solubility (water):	partially soluble
Partition coefficient n-octanol/water:	Not available
Auto-ignition temperature:	>200°C (392°F)
Decomposition temperature:	>200°C (392°F)
Viscosity:	200 - 400 cP @ 25°C (77°F)

*Where data are not known for mixture, they are stated for components, if available.

SECTION 10 – STABILITY AND REACTIVITY**Reactivity:**

Hazardous Polymerization: Product will not undergo hazardous polymerization.

Corrosion to metals: Corrosive effects to metal are not anticipated.

Oxidizing properties: Based on its structural properties the product is not classified as oxidizing.

Formation of flammable gases: Does not form flammable gases in the presence of water.

Chemical stability: Stable under recommended storage conditions. Product is hygroscopic; contamination with moisture will negatively affect product performance. Avoid unintended contact with isocyanates; the reaction will generate heat.

Conditions to avoid: Unintentional contact with moisture, excessive heat, open flame and sparks. Avoid mist formation.

Incompatible materials: Strong oxidizing agents. Hazardous decomposition products: Depend upon temperature, air supply and presence of other materials. Can include, but are not limited to carbon dioxide, carbon monoxide, alcohols, ethers, ketones, hydrocarbons, polymer fragments.

PRODUCT NAME(S): ThermalGuard OC 1.0P, B Component**SECTION 11 – TOXICOLOGICAL INFORMATION**

Likely Routes of Exposure: Ingestion, Skin and Eye Contact, Inhalation.

Symptoms of exposure:

Acute toxicity:

Oral: Harmful if swallowed. May cause burns to mouth, throat and stomach. Adverse symptoms may include stomach pain.

Dermal: Causes severe burns. Adverse symptoms may include pain or irritation, redness, blistering.

Inhalation: May give off-gas, vapor or mist that is very irritating or corrosive to the respiratory system.

Skin corrosion / irritation:

Corrosive! Damages skin if not removed immediately. A more severe response may be expected if skin is abraded (scratched or cut).

Serious eye damage / eye irritation:

May cause serious eye damage. Adverse symptoms may include pain, watering, redness.

Aspiration hazard:

Based on physical properties, not likely to be an aspiration hazard.

Chronic toxicity:

Respiratory and Skin Sensitizer:

The chemical structure does not suggest a sensitizing effect. This material is not known or reported to be a skin or respiratory sensitizer.

Germ cell mutagenicity:

Developmental risk to humans is not expected from exposure to this product. Not known or reported to be mutagenic.

Mutagenic effect was not found in various tests with mammalian cell culture and mammals. The substance was not mutagenic in bacteria. No experimental evidence is available for mutagenicity in vitro (Ames test negative).

Carcinogenicity:

This product does not contain ingredients known or reported to be carcinogenic by any reference IARC, NTP, EPA, OSHA, ACGIH.

Reproductive toxicity:

Risk to humans is not expected from exposure to this product. Not known or reported to cause reproductive toxicity.

Specific target organ toxicity, single exposure:

Not expected.

Specific target organ toxicity, repeated exposure:

Respiratory system, lungs

Medical conditions aggravated by overexposure:

Asthma, respiratory disorders if product is handled without adequate protection.

Toxicity test results:

Acute toxicity, LD50, Oral, Rat, 3600. MG/KG.

Results: Behavioral: Somnolence (general depressed activity).

Behavioral: Tremor.

Lungs, Thorax, or Respiration: Other changes.

- National Technical Information Service, Vol/p/yr: OTS05, 7713

Acute toxicity, LD50, Intravenous, Mouse, 56.00 MG/KG.

Results: Behavioral: Food intake (animal).

Nutritional and Gross Metabolic: Weight loss or decreased weight gain.

- U.S. Army Armament Research & Development Command, Chemical Systems

Laboratory, NIOSH Exchange Chemicals., Aberdeen Proving Ground,

Aberdeen Proving Ground, MD 21010, Vol/p/yr: NX#, 5768

Skin corrosion/irritation, Skin sensitization, Skin, Rabbit, 0.000, Mild.

Results: Sense Organs and Special Senses (Nose, Eye, Ear, and Taste): Eye: Lacrimation.

Behavioral: Tremor.

Lungs, Thorax, or Respiration: Cyanosis.

Irritation or Corrosion

Skin - rabbit - Mild skin irritation - 24 h.

Serious eye damage/eye irritation:

Skin - rabbit - Corrosive.

Eyes - rabbit - Severe eye irritation.

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SECTION 12 – ECOLOGICAL INFORMATION

Assessment of aquatic toxicity: Not tested. Do not discharge product into the environment.

Assessment of terrestrial toxicity: Study not necessary due to exposure considerations.

Persistence and degradability: Not readily biodegradable by OECD criteria. In contact with water the substance will hydrolyze slowly.

Bioaccumulative potential: No significant accumulation in organisms is expected.

Mobility in soil: Not expected.

Other adverse effects: No known significant effects or critical hazards.

SECTION 13 – DISPOSAL CONSIDERATIONS

Product Disposal: The generation of waste should be avoided or minimized wherever possible. If product becomes a waste, it does not meet criteria of hazardous waste as defined in 40 CFR 261, Subpart C and D. Do not discharge into sewer system. Spill cleanup residues may still be subject to RCRA storage and disposal requirements. Dispose waste in compliance with local, state and federal regulations via licensed waste disposal contractor.

Container disposal: Even after emptying, container may retain residues. Empty containers should be completely drained and safely stored until appropriately reconditioned or disposed through licensed contractor in accordance with government regulation.

This material and its container must be disposed of in a safe way.

SECTION 14 – TRANSPORT INFORMATION

Land Transport (US DOT): Not Regulated.
Land Transport (Canadian TDG): Not Regulated.
Land Transport (European ADR/RID): Not dangerous goods.
Marine Transport (IMDG/IMO): Not Regulated.
Air Transport (ICAO/IATA): Not Regulated.

SECTION 15 – REGULATORY INFORMATION

NFPA rating: Health: 1 Fire: 0 Reactivity: 0 Special: 0

HMIS rating: Health: 1 Flammability: 0 Physical hazard: 0

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S.301 (EHS)	S. 304 RQ	S. 313 (TRI)
Trade Secret	Halogenated Phosphate	No	No	No
Trade Secret	Amine Catalyst	No	No	No

CAS #	Hazardous Components	Other US EPA or State Lists
Trade Secret	Halogenated Phosphate	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 8D TERM; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: No; NY Part 597: No; PA HSL: No; SC TAP: No; WI Air: No
Trade Secret	Amine Catalyst	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes -Inventory; CA PROP.65: No; CA TAC, Title 8: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NC TAP: No; NJ EHS: Yes; NY Part 597: No; PA HSL: No; SC TAP: No; WI Air: Yes

CAS #	Hazardous Components	International Regulatory Lists
Trade Secret	Halogenated Phosphate	Canadian DSL: YES; Canadian NDSL: NO
Trade Secret	Amine Catalyst	Canadian DSL: YES; Canadian NDSL: NO

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Other Regulatory Information: This product contains no chemicals subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 40CFR part 372.

European Union Regulations: All ingredients of this product are listed or exempted.
Symbol – none required.

International Regulations/Inventories:

Australia (AICS): All components are listed or exempted.

China (IECSC): All components are listed or exempted.

Japan: All components are listed or exempted.

Korea: All components are listed or exempted.

Malaysia (EHS Register): Not determined.

New Zealand (NZIoC): All components are listed or exempted.

Philippines (PICCS): All components are listed or exempted.

Brazil Regulations: Classification system Norma ABNT-NBR 14725-2:2012

SECTION 16 – OTHER INFORMATION**LEGEND**

GHS	Globally harmonized System
CAS	Chemical Abstracts Services
EPA	Environmental Protection Agency
OSHA	Occupational Safety and Health Administration
ACGIH	American Conference of Governmental Industrial Hygienists
NIOSH	National Institute of Occupational Safety and Health
PEL	Permissible Exposure Limits
TLV	Threshold Limit Value
REL	Recommended Exposure Limit
TWA	Time-Weighted Average
STEL	Short-term exposure limit
OES	Occupational exposure standard
MAK	Maximale Arbeitsplatz-Konzentration (maximum workplace concentration)
TRGS	Technische Regeln für Gefahrstoffe (regulatory limits)
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
DOT	Department of Transportation
IMDG	International maritime dangerous goods code
IATA, ICAO	International Air Transport Association, International Civil Aviation Organization
EPCRA	Emergency Planning and Community Right-to-Know Act
SARA	State Authorization Reciprocity Agreements
WHMIS	Workplace Hazardous Materials Information System
TDG	Transport of Dangerous Goods
HCS	Hazard Communication Standard
CEPA	Center for European Policy Agreements
EINECS	European Inventory of Existing Commercial Chemical Substances
CPR	Controlled Products Regulations
PACs	Polycyclic Aromatic Compounds
PAH	Polycyclic Aromatic Hydrocarbon Content
SPF	Spray Polyurethane Foam

Latest revision date: May 20, 2015 – Preparation of SDS in accordance to the GHS requirements

Date of the previous revision:

Disclaimer: The data set forth in this sheet are based on information provided by the suppliers of the raw materials and chemicals used in the manufacture of the aforementioned product. Rhino Linings Corporation makes no warranty with respect to the accuracy of the information provided by their suppliers, and disclaims all liability of reliance thereof.