

Section 1: Product and Company Identification

Polymerica, Inc.
3821 Collins Lane
Louisville, KY 40245
Business: 502-326-3670
FAX: 502-326-3632

Product Name: Moisture Vapor Passivator – Part A
Generic Name:
Synonyms: NA
Product Description: Reactive resin-forming component
CAS # NA – mixture
Date of Revision: 8 May 2009

24-Hour Emergency Phone Number: (800) 535-5053 (INFOTRAC) U.S. & Canada
International calls: (352) 323-3500
Use only for spills and releases.

Section 2: Hazard Identification

Colorless to yellow viscous liquid. **Emergency Overview:** May irritate eyes and skin. May be harmful if ingested, inhaled or absorbed through skin. Use with adequate ventilation.

HMI S HEALTH	1
HMI S FLAMMABILITY	1
HMI S REACTIVITY	1
PERSONAL PROTECTION	C

OSHA Regulatory Status: This material is considered hazardous under the OSHA standard.

WHMIS Classification: D2B

Potential Health Effects:

Inhalation: Low vapor pressure makes this route unlikely unless misting of the liquid occurs. At higher temperatures fumes may cause irritation.

Ingestion: Low order of toxicity

Skin Contact: May cause irritation. May cause sensitization in susceptible persons.

Eye Contact: Can causes irritation, redness and tearing.

Chronic Exposure: No information found.

Aggravation of Pre-existing Conditions: No information found.

Target Organs: Eyes, skin

Section 3: Composition / Information On Ingredients

Component	Common Names, Synonyms	CAS #	EINECS	Weight %
Oxirane, 2,2'-4-butylidene-bisphenyleneoxymethylene	Epoxy resin; DGEBA	25098-99-8	NLP # 500-033-5	> 90

Non-hazardous components may or may not be listed. Carcinogens are listed when present at 0.1% or more; components which are otherwise hazardous according to OSHA are listed when present at 1.0% or more. This is not intended to be complete compositional disclosure. See Section 15 for applicable states right to know and other regulatory information.

Section 4: First Aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion: DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin: Immediately flush skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops.

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physicians: N/A

Section 5: Fire Fighting Measures

Fire: Flash point: 251°C (485°F), closed cup

Explosion: Not considered an explosion hazard.

Extinguishing Media: Water spray, dry chemical, alcohol foam or carbon dioxide. Water spray may be used to keep fire exposed containers cool.

Special Precautions: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

NFPA Rating: Health - 1 Flammability - 1 Reactivity - 0 Other – NA

Section 6: Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! If a leak or spill has not ignited, use water spray to disperse the vapors, to protect personnel attempting to stop leak, and to flush spills away from exposures. US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

Section 7: Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect against physical damage. Isolate from any source of heat or ignition. Separate from incompatibles, combustibles, organic or other readily oxidizable materials. Containers of this material may be hazardous when empty since they retain product residues (liquid, vapors); observe all warnings and precautions listed for the product.

Section 8: Exposure Control / Personal Protection

Exposure Guidelines:

Component	CAS #	OSHA PEL	ACGIH TLV	NIOSH TLV
Oxirane, 2,2'-4-butylidene-bisphenyleneoxymethylene	25098-99-8	None established	None established	None established

Personal Protective Equipment:

Skin Contact: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Nitrile and NBR gloves are recommended.

Eye Contact: Use chemical safety goggles and/or full face shield where misting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Inhalation: Use NIOSH-approved vapor respirator if exposure is unknown or exceeds permissible limits. A respiratory protection program that meets OSHA's 29 CFR 1910.134 or ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Engineering Controls: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Section 9: Physical and Chemical Properties

Appearance	Colorless to yellow liquid	Specific Gravity (g/mL)	1.16
Odor	Phenolic	pH	N/A
Odor Threshold	ND	Solubility in water	Very low
Melting Point	ND	% Volatiles	<1%
Boiling Point	> 200°C (> 392°F)	Evaporation Rate	ND
Flash Point	251°C (485°F)	Vapor Pressure	ND
VOC as component	0 g/L	VOC as applied	0 g/L

Section 10: Stability and Reactivity

Chemical Stability: This product is stable in closed containers at room temperature.

Hazardous Decomposition Products: Carbon oxides (CO, CO₂), organic acids and aldehydes

Hazardous Polymerization: Polymerization can be initiated by mixing with amines, sulfides, strong bases which can cause heating and pressure build-up.

Incompatibilities: Strong oxidizers, acids, sparks, flame, heat, moisture

Conditions to Avoid: Incompatible materials, combustible materials.

Section 11: Toxicological Information

Acute Dose Effects: Eyes: No information found

Skin: Rabbit LD50: 6,000 mg/kg

Oral: Rat LD50: 10,000 mg/kg

Inhalation: No information found.

Section 12: Ecological Information

Environmental Fate: This product is not expected to bioaccumulate. This product is not readily biodegradable.

Ecotoxicity: Fathead minnow (*Pimephales promelas*) LC50: 3.1 mg/L

Section 13: Disposal Considerations

As a waste, this material in its raw form IS NOT considered a HAZARDOUS WASTE under RCRA (29 CFR 261).

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14: Transport Information

U.S. Domestic Ground **Proper Shipping Name:** Not regulated for transport
DOT Hazard Class: N/A
UN Number: N/A
Packing Group: N/A

U.S. Domestic Air **Proper Shipping Name:** Not regulated for transport
DOT Hazard Class: N/A
UN Number: N/A
Packing Group: N/A

Canadian TDG **Proper Shipping Name:** Not regulated for transport
DOT Hazard Class: N/A
UN Number: N/A
Packing Group: N/A

International Air **Proper Shipping Name:** Not regulated for transport
DOT Hazard Class: N/A
UN Number: N/A
Packing Group: N/A

CERCLA Reportable Quantity (RQ): N/A

Releases exceeding the reportable quantity (RQ) must be reported to the National Response Center (800) 424-8802.

This data provided for information only. The description shown may not apply to all shipping situations.

Consult 49 CFR, or appropriate regulations to properly classify your shipment for transportation.

Section 15: Regulatory Information

TSCA Chemical Inventory: All of the chemicals in this product are listed on the TSCA Inventory.

TSCA Sec 4 Chemical Test Rule: None of the chemicals in this product are under a Chemical Test Rule.

TSCA Sec 8(d): None of the chemicals in this product are on the Health and Safety Reporting List.

TSCA Sec 12(b) Notices of Export: None of the chemicals in this product are on this list.

TSCA Significant New Use Rule (SNUR): None of the chemicals in this product are on this list.

SARA Sec 302 (EHS) TPQ: None of the chemicals in this product have a TPQ.

SARA Sec 302 (EHS) RQ: None of the chemicals in this product have a RQ.

SARA Sec 311/312: Acute – NO; Chronic – NO; Fire – NO; Release of Pressure – NO; Reactivity – NO

SARA 313 List: None of the chemicals in this product is reportable under Section 313 Title III and 40 CFR Part 372.

CERCLA Hazardous Substances and corresponding RQs: N/A

RCRA: None of the chemicals in this product are on this list.

Clean Air Act: Hazardous Air Pollutants? NO Class 1 Ozone Depletors? NO Class 2 Ozone Depletors? NO

Clean Water Act: Hazardous Substance? NO Priority Pollutant? NO Toxic Pollutant? NO

Chemical Weapons Convention: None of the chemicals in this product are on this list.

Drug Enforcement Agency (DEA) CDTA: None of the chemicals in this product are on this list.

OSHA: None of the chemicals in this product are considered Highly Hazardous by OSHA.

State Right-to-Know Lists: CAS # 25098-99-8 epoxy resin is found on the Right-to-Know lists of New Jersey and Pennsylvania.

California Proposition 65: None of the chemicals in this product are on this list.

Canadian: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.

The components in this product are listed, or exempt from listing, on the Canadian Domestic Substances List.

WHMIS Classification: D2B - WHMIS Controlled

Ingredient Disclosure List: None of the components of this product are on this list.

Section 16: Other Information

See Section 16 at very end of this document. All notes and claims that would appear in this section are found there.

Section 1: Product and Company Identification
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Polymerica, Inc. 3821 Collins Lane Louisville, KY 40245 Business: 502-326-3670 FAX: 502-326-3632	Product Name: Moisture Vapor Passivator – Part B Generic Name: Synonyms: NA Product Description: Reactive resin-forming component CAS # NA – mixture Date of Revision: 8 May 2009
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24-Hour Emergency Phone Number: (800) 535-5053 (INFOTRAC) U.S. & Canada
International calls: (352) 323-3500
Use only for spills and releases.

Section 2: Hazard Identification

White liquid. **Emergency Overview:** Corrosive! May cause eye or skin irritation. Harmful if ingested, inhaled or absorbed through skin. Use with adequate ventilation.

HMIS HEALTH	2
HMIS FLAMMABILITY	0
HMIS REACTIVITY	1
PERSONAL PROTECTION	E

OSHA Regulatory Status: This material is considered hazardous under the OSHA standard.

WHMIS Classification:

Potential Health Effects:

Inhalation: Causes irritation to respiratory tract. Low vapor pressure makes this route unlikely unless misting of the liquid occurs.

Ingestion: Harmful if swallowed. Causes irritation to mucous membranes

Skin Contact: Causes irritation or burns with reddening, pain or itching. May cause allergic reactions or sensitization in susceptible persons.

Eye Contact: Causes burns or irritation. May scratch cornea if rubbed in eye.

Chronic Exposure: No information found.

Aggravation of Pre-existing Conditions: No information found.

Target Organs: Eyes, skin, gastrointestinal tract

Section 3: Composition / Information On Ingredients
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Component	Common Names, Synonyms	CAS #	EINECS	Weight %
Polyamine – epoxy resin adduct		Trade Secret	N/A	< 15
Barium sulfate	Barite	7727-43-7	231-784-4	< 60
Titanium dioxide	Titania	13463-67-7	236-675-5	< 10

Non-hazardous components may or may not be listed. Carcinogens are listed when present at 0.1% or more; components which are otherwise hazardous according to OSHA are listed when present at 1.0% or more. This is not intended to be complete compositional disclosure. See Section 15 for applicable states right to know and other regulatory information.

Section 4: First Aid Measures

Inhalation: Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention immediately.

Ingestion: DO NOT induce vomiting. Never give anything by mouth to an unconscious person. Get medical attention immediately.

Skin: Immediately flush skin with plenty of water for at least 15 minutes. Get medical attention if irritation develops.

Eyes: Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

Note to Physicians: N/A

Section 5: Fire Fighting Measures

Fire: Flash point: Not flammable. May provide fuel for fire after water has evaporated from mixture.

Explosion: Not considered an explosion hazard.

Extinguishing Media: Water spray, dry chemical, alcohol foam or carbon dioxide. Water spray may be used to keep fire exposed containers cool.

Special Precautions: In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

NFPA Rating: Health - 2 Flammability - 0 Reactivity - 1 Other – NA

Section 6: Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8. Isolate hazard area. Keep unnecessary and unprotected personnel from entering. Contain and recover liquid when possible. Use non-sparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert material (e. g., vermiculite, dry sand, earth), and place in a chemical waste container. Do not use combustible materials, such as saw dust. Do not flush to sewer! US Regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of reportable quantities. The toll free number for the US Coast Guard National Response Center is (800) 424-8802.

Section 7: Handling and Storage

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Section 8: Exposure Control / Personal Protection

Exposure Guidelines:

Component	CAS #	OSHA PEL	ACGIH TLV	NIOSH TLV
Polyamine – epoxy resin adduct	1477-55-0	None established	None established	None established
Barium sulfate	7727-43-7	15 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable fraction)	10 mg/m ³ TWA	10 mg/m ³ TWA (total dust); 5 mg/m ³ TWA (respirable dust)
Titanium dioxide	13463-67-7	15 mg/m ³ TWA (total dust)	10 mg/m ³ TWA as dust	5000 mg/m ³ IDLH as dust

Personal Protective Equipment:

Skin Contact: Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact. Nitrile and NBR gloves are recommended.

Eye Contact: Use chemical safety goggles and/or full face shield where misting or splashing of solutions is possible. Maintain eye wash fountain and quick-drench facilities in work area.

Inhalation: Use NIOSH-approved vapor respirator if exposure is unknown or exceeds permissible limits. A respiratory protection program that meets OSHA's 29 CFR 1910.134 or ANSI Z88.2 requirements must be followed whenever workplace conditions warrant respirator use. **WARNING:** Air-purifying respirators do not protect workers in oxygen-deficient atmospheres.

Engineering Controls: A system of local and/or general exhaust is recommended to keep employee exposures below the Airborne Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Section 9: Physical and Chemical Properties

Appearance	white liquid	Specific Gravity (g/mL)	1.986
Odor	Ammonical	pH	N/A
Odor Threshold	ND	Solubility in water	Slightly
Melting Point	ND	% Volatiles	<20%
Boiling Point	> 200°C (> 392°F)	Evaporation Rate	ND
Flash Point	Not flammable	Vapor Pressure	ND
VOC as component	0 g/L	VOC as applied	0 g/L

Section 10: Stability and Reactivity

Chemical Stability: This product is stable in closed containers at room temperature.

Hazardous Decomposition Products: Carbon oxides (CO, CO₂), nitrogen oxides (NO₂, N₂O, NO), sulfur oxides (SO₂, SO₃)

Incompatibilities: Strong oxidizers, aluminum, copper, zinc, acids, bases, peroxides, sodium hypochlorite, sparks, flame, heat, moisture

Conditions to Avoid: Incompatible materials, combustible materials.

Section 11: Toxicological Information

Acute Dose Effects: Eyes: No information found.

Skin: No information found.

Oral: No information found.

Inhalation: No information found.

Section 12: Ecological Information

Environmental Fate: This product is not expected to bioaccumulate. This product is not readily biodegradable.

Ecotoxicity: Titanium dioxide: Daphnia: (*Daphnia magna*) LC50: 32 mg/L, 30D; Bacteria (*Pseudomonas fluorescens*) EC₀: > 10000 mg/L, 24H; Fish (*Phoxinus phoxinus*) LC₀:>=1000 mg/L, 30D; *Cyprinodon variegatus*: LC50: >240 mg/L, 96H; Opossum shrimp (*Mysidopsis almyra*) LC50: >300 mg/L, 96H.

Section 13: Disposal Considerations

As a waste, this material in its raw form IS NOT considered a HAZARDOUS WASTE under RCRA (29 CFR 261).

Whatever cannot be saved for recovery or recycling should be managed in an appropriate and approved waste disposal facility. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Dispose of container and unused contents in accordance with federal, state and local requirements.

Section 14: Transport Information

U.S. Domestic Ground **Proper Shipping Name:** Not regulated
DOT Hazard Class: N/A
UN Number: N/A
Packing Group: N/A

U.S. Domestic Air **Proper Shipping Name:** Not regulated
DOT Hazard Class: N/A
UN Number: N/A
Packing Group: N/A

Canadian TDG **Proper Shipping Name:** Not regulated
DOT Hazard Class: N/A
UN Number: N/A
Packing Group: N/A

International Air **Proper Shipping Name:** Not regulated
DOT Hazard Class: N/A
UN Number: N/A
Packing Group: N/A

CERCLA Reportable Quantity (RQ): N/A

Releases exceeding the reportable quantity (RQ) must be reported to the National Response Center (800) 424-8802.

This data provided for information only. The description shown may not apply to all shipping situations.

Consult 49 CFR, or appropriate regulations to properly classify your shipment for transportation.

Section 15: Regulatory Information

TSCA Chemical Inventory: All of the chemicals in this product are listed on the TSCA Inventory.

TSCA Sec 4 Chemical Test Rule: None of the chemicals in this product are under a Chemical Test Rule.

TSCA Sec 8(d): None of the chemicals in this product are on the Health and Safety Reporting List.

TSCA Sec 12(b) Notices of Export: None of the chemicals in this product are on this list.

TSCA Significant New Use Rule (SNUR): None of the chemicals in this product are on this list.

SARA Sec 302 (EHS) TPQ: None of the chemicals in this product have a TPQ.

SARA Sec 302 (EHS) RQ: None of the chemicals in this product have a RQ.

SARA Sec 311/312: Acute – YES; Chronic – NO; Fire – NO; Release of Pressure – NO; Reactivity – NO

SARA 313 List: None of the chemicals in this product is reportable under Section 313 Title III and 40 CFR Part 372.

CERCLA Hazardous Substances and corresponding RQs: N/A

RCRA: None of the chemicals in this product are on this list.

Clean Air Act: Hazardous Air Pollutants? NO Class 1 Ozone Depletors? NO Class 2 Ozone Depletors? NO

Clean Water Act: Hazardous Substance? NO Priority Pollutant? NO Toxic Pollutant? NO

Chemical Weapons Convention: None of the chemicals in this product are on this list.

Drug Enforcement Agency (DEA) CDTA: None of the chemicals in this product are on this list.

OSHA: None of the chemicals in this product are considered Highly Hazardous by OSHA.

State Right-to-Know Lists: Titanium dioxide is found on the Right-to-Know lists of New Jersey, Florida, Pennsylvania, Minnesota and Massachusetts. Barium sulfate is found on the Right-to-Know lists of New Jersey, Pennsylvania, Minnesota and Massachusetts.

California Proposition 65: None of the chemicals in this product are on this list.

Canadian: This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations.

The components in this product are listed, or exempt from listing, on the Canadian Domestic Substances List.

WHMIS Classification: D2B

WHMIS Controlled

Ingredient Disclosure List: Titanium dioxide and barium sulfate are listed on the Canadian Ingredient Disclosure List.

Section 16: Other Information

Abbreviations and acronyms used:

ACGIH	American Conference of Governmental Industrial Hygienists	NA	not applicable, not available
ANSI	American National Standards Institute	NIOSH	National Institute for Occupational Safety and Health
atm	atmosphere (pressure unit)	ND	not determined
BOD	biological oxygen demand	NFPA	National Fire Prevention Association
CAS	Chemical Abstracts Service	NTP	National Toxicology Program
CC	closed cup	OC	open cup
CDTA	Chemical Drug and Trafficking Act	OSHA	Occupational Safety and Health Administration
COC	Cleveland Open Cup	Part	partition
COD	chemical oxygen demand	PEL	permissible exposure limits
coeff.	coefficient	ppb	parts per billion
CFR	Code of Federal Regulations	PPE	personal protective equipment
CPR	cardio-pulmonary resuscitation	ppm	parts per million
DEA	Drug Enforcement Agency	psi	pounds per square inch
DOT	Department of Transportation	RCRA	Resource Conservation and Recovery Act
FDA	Food and Drug Administration	RQ	Reportable quantity
IARC	Internat'l Agency for Research on Cancer	RTK	Right to Know
IDLH	immediate danger to life and health	SARA	Superfund Amendments and Reauthorization Act
kg	kilogram	STEL	short-term exposure limit
L	liter	TCC	Tagliabue Closed Cup
LC50	median lethal concentration	TPQ	threshold planning quantity
LD50	median lethal dose	TQ	threshold quantity
LEL	lower explosive limit	TSCA	Toxic Substances Control Act
mg	milligram	TWA	time-weighted average
mL	milliliter	UEL	upper explosive limit

This document was prepared in accordance with 29 CFR 1910.1200 and ANSI Z400.1-2005.

Prepared by Douglas R. Chrisope on 8 May 2009.

DISCLAIMER: Although the information and recommendations set forth herein (hereinafter "Information") are presented in good faith and believed to be correct as of the date hereof, the Company makes no representations as to the completeness or accuracy thereof. Information is supplied upon the condition that the persons receiving this MSDS will make their own determination as to its suitability for their intended purposes prior to use. Since the product is within the exclusive control of the user, it is the user's obligation to determine the conditions of safe use of this product. Such conditions should comply with all Federal Regulations concerning the Product. It must be recognized that the physical and chemical properties of any product may not be fully understood and that new, possibly hazardous products may arise from reactions between chemicals. The

information given in this data sheet is based on our present knowledge and shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. NO REPRESENTATIONS OR WARRANTIES, EITHER EXPRESS OR IMPLIED, OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OF ANY OTHER NATURE ARE MADE HEREUNDER WITH RESPECT TO INFORMATION OR THE PRODUCT TO WHICH INFORMATION REFERS.

THIS IS THE LAST PAGE OF THIS MSDS
