



Material Safety Data Sheet

Revision Date: 10/Jun/2014

1. PRODUCT AND COMPANY IDENTIFICATION

Product Description:

POLYLITE® 33008-30

SAP ID(s):

202285 ; 202286

Material Code:

33008-30

Chemical Family

Polyester Resin

Intended Use:

Laminating Resin

Manufacturer/Supplier:

Reichhold, Inc.
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E-mail address

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2. HAZARDS IDENTIFICATION

Emergency Overview

WARNING

Flammable Liquid

Vapors may form explosive mixtures with air

Vapor can travel to a source of ignition (spark or flame) and flash back

Hazardous polymerization may occur

Material can accumulate static charges which may cause an incendiary electrical discharge

Harmful by inhalation, in contact with skin and if swallowed

Irritating to eyes and skin

Appearance Grey Opaque

Physical State Liquid

Odor Pungent

Primary Routes of Entry

Eye contact, Ingestion, Inhalation, Skin Contact, Skin absorption.

Acute effects

Eyes

Irritating to eyes.

Skin

Harmful by skin absorption. Contact causes skin irritation. Prolonged skin contact may defat the skin and produce dermatitis.

Inhalation

Harmful by inhalation. May cause irritation of respiratory tract. Inhalation of high vapor concentrations can cause CNS-depression and narcosis.

Ingestion

Harmful if swallowed. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhea. Aspiration hazard if swallowed - can enter lungs and cause damage. Ingestion is not an anticipated route of exposure for this material in industrial use.

Chronic Effects

This material contains a chemical which is listed by the International Agency for Research on Cancer (IARC) as a group 2B cancer causing agent (possibly carcinogenic to humans). The National Toxicology Program (NTP) has listed a chemical in this material as reasonably anticipated to be a human carcinogen.

Target organ(s)

Liver, Central nervous system (CNS), Respiratory system, Kidney.

HMS:

Health: 2*

Flammability: 3

Reactivity: 1

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight-%	Status
Polyester Resin	Proprietary	64	Not Hazardous
Styrene	100-42-5	33.3	Hazardous

Cobalt compounds	Proprietary	< 0.2	Hazardous
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4. FIRST AID MEASURES

Skin Contact	Wash off with warm water and soap. Remove contaminated clothing and shoes. If skin irritation persists, call a physician. Wash contaminated clothing before reuse.
Eye Contact	Immediately flush eyes for at least 15 minutes. Get medical attention.
Inhalation	Remove person to fresh air. If signs/symptoms continue, get medical attention. Keep patient warm and at rest. If not breathing, give artificial respiration. If breathing is labored, administer oxygen. Get medical attention immediately.
Ingestion	Do not induce vomiting. Potential for aspiration if swallowed. This material may enter the lungs during vomiting. Never give anything by mouth to an unconscious person. GET IMMEDIATE MEDICAL ATTENTION.

5. FIRE-FIGHTING MEASURES

Flammability	Flammable liquid.			
Suitable Extinguishing Media	Carbon dioxide (CO2), Foam, Dry chemical, Water spray.			
Hazardous combustion products	Combustion may produce carbon monoxide, carbon dioxide and irritating or toxic vapors and gases.			
Fire/Explosion Hazard:	Flammable. Vapors may form explosive mixtures with air. Flash back possible over considerable distance. This material may polymerize (react) when its container is exposed to heat (as during a fire). This polymerization increases pressure inside a closed container and may result in the violent rupture of the container. Empty containers may retain product residue (liquid and/or vapor). Do not pressurize, cut, weld, braze, solder, drill, grind, or expose these containers to heat, flame, sparks, static electricity, or other sources of ignition as the container may explode and may cause injury or death.			
Protective Equipment and Precautions for Firefighters:	Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Thoroughly decontaminate all protective equipment after use. Evacuate all persons from the fire area to a safe location. Move non-burning material, as feasible, to a safe location as soon as possible. Fire fighters should be protected from potential explosion hazard while extinguishing the blaze. DO NOT extinguish a fire resulting from the flow of this flammable liquid until the flow of liquid is effectively shut off. This precaution will help prevent the accumulation of an explosive vapor-air mixture after the initial fire is extinguished. Use water spray to cool fire-exposed containers.			
NFPA Rating	<table border="0" style="width: 100%;"> <tr> <td style="text-align: center;">Health 2</td> <td style="text-align: center;">Flammability 3</td> <td style="text-align: center;">Instability 1</td> </tr> </table>	Health 2	Flammability 3	Instability 1
Health 2	Flammability 3	Instability 1		

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Remove all sources of ignition. Evacuate personnel to safe areas. Avoid contact with skin and eyes. Use personal protective equipment as required. Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
Environmental Precautions	Prevent further leakage or spillage if safe to do so. Do not allow material to contaminate ground water system. Prevent product from entering drains. Soak up with inert absorbent material and dispose of as hazardous waste. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.
Methods for Containment	Prevent spilled material from 1) contaminating soil, 2) entering sanitary sewers, storm sewers, and drainage systems, and 3) entering bodies of water or ditches that lead to waterways. Prevent spreading over a wide area (e.g. by containment or oil barriers).

Methods for Clean-up	Soak up with inert absorbent material. Remove from surface water (e.g. by skimming or siphoning). Dispose of contaminated material as waste according to item 13.
Other Information	All equipment used when handling the product must be grounded

7. HANDLING AND STORAGE

Handling	Do not breathe vapor or mist. Avoid contact with eyes, skin and clothing. Take off contaminated clothing and wash before reuse. Ensure adequate ventilation. Ground and bond containers when transferring material. Use spark-proof tools and explosion-proof equipment. Consult your supplier of promoters and catalysts for additional instructions on proper mixing and usage. Empty containers may retain product residue (liquid and/or vapor). Do not pressurize, cut, weld, braze, solder, drill, grind, or expose these containers to heat, flame, sparks, static electricity, or other sources of ignition as the container may explode and may cause injury or death. Empty drums should be completely drained and properly bunged. Empty drums should be promptly returned to a drum reconditioner or properly disposed. Do not use compressed air for filling, discharging or handling. Wash hands before breaks and immediately after handling the product.
Storage	Keep away from heat and sources of ignition. No smoking. Keep away from direct sunlight. Keep containers tightly closed in a cool, well-ventilated place. To ensure maximum stability and maintain optimum resin properties, resins should be stored in closed containers at temperatures below 77°F (25°C).

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure limits

Components with workplace control parameters.

Styrene (CAS #: 100-42-5)

ACGIH - TLV	20 ppm TWA 40 ppm STEL
OSHA PEL	100 ppm TWA 200 ppm Ceiling
Industry PEL	While the federal workplace exposure limit for styrene is 100 ppm, OSHA accepted the styrene industry's proposal to voluntarily meet a PEL of 50 ppm on an 8 hour TWA and a Short Term Exposure Limit (STEL) of 100 ppm, 15 minute exposure.
Canada - Alberta OELs	40 ppm STEL 170 mg/m ³ STEL
Canada - Ontario OELs	20 ppm TWA 85 mg/m ³ TWA
Canada - British Columbia OELs	35 ppm TWA 100 ppm STEL
NIOSH IDLH	50 ppm TWA 75 ppm STEL
Mexico OEL	700 ppm Immediately dangerous to life or health IDLH 100 ppm STEL 425 mg/m ³ STEL 50 ppm TWA 215 mg/m ³ TWA (skin)

Legend

ACGIH (American Conference of Governmental Industrial Hygienists)
 TLV® (Threshold Limit Value)
 TWA (time-weighted average)
 STEL - Short Term Exposure Limit
 OSHA - Occupational Safety and Health Administration
 PEL - Permissible Exposure Limit
 OEL - Occupational Exposure Limit
 NIOSH - National Institute for Occupational Safety and Health
 IDLH - Immediately Dangerous to Life or Health
 SKIN: Skin Absorption

Engineering Controls	Use general ventilation to maintain airborne concentrations to levels that are below regulatory and recommended occupational exposure limits. Local ventilation may be required during certain operations. Use explosion-proof equipment.
<u>Personal Protective Equipment</u> Eye/face Protection	Safety glasses with side-shields. If splashes are likely to occur. Tight sealing safety goggles. Ensure that eyewash stations and safety showers are close to the workstation location.
Skin Protection	Wear protective nitrile rubber or Viton™ gloves. Gloves made of nitrile rubber or polyvinyl chloride (PVC) may be used for splash protection and brief or intermittent contact with styrenated polyester resin. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Impervious clothing. Rubber or plastic boots.
Respiratory Protection	None required if hazards have been assessed and airborne concentrations are maintained below the exposure limits listed in Section 8. Wear an approved air-purifying respirator with organic vapor cartridges and particulate filters where airborne concentrations may exceed exposure limits in Section 8 and/or there is exposure to dust or mists due to sanding, grinding, cutting, or spraying. Use an approved positive-pressure air-supplied respirator with emergency escape provisions if there is any potential for an uncontrolled release, airborne concentrations are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Grey Opaque
Odor	Pungent
Odor Threshold	0.2 ppm (Styrene)
Physical State	Liquid
pH	Not applicable
Flash Point	32 °C / 89 °F
Flash Point Method:	Seta closed cup
Autoignition Temperature	490°C / 914°F (Styrene)
Boiling point / boiling range	146°C / 295°F (Styrene)
Melting point / melting range	-30°C / -23°F (Styrene)
Flammability Limit in Air	
Lower	1.1% (Styrene)
Upper	6.1% (Styrene)
Specific Gravity	1.08 - 1.12 @ 25°C
Solubility	Insoluble (Water)
Evaporation Rate	0.49 (BuAc = 1) (Styrene)
Vapor Pressure	5 mmHg @ 20°C (Styrene) 6.7 hPa (Styrene)
Vapor Density	3.6 (Air = 1) (Styrene)
Percent Volatile, wt. %	33.8 - 36.8 % by weight
VOC Content:	377 g/l (calculated) product as supplied
Viscosity	550 - 650 cps @ 25°C

10. STABILITY AND REACTIVITY

Chemical stability	Stable under normal conditions. Stable under recommended storage conditions.
Conditions to Avoid	Heat, flames and sparks. Contamination by those materials referred to under Incompatible materials. Unstable upon depletion of inhibitor. Elevated temperatures.
Incompatible Materials	Strong acids. Strong oxidizing agents. Metal salts. Polymerization catalysts.
Hazardous Decomposition Products	Hydrocarbons. Carbon monoxide. Carbon dioxide (CO ₂). Thermal decomposition can lead to release of irritating and toxic gases and vapors.

Hazardous Polymerization

Polymerization can occur. Hazardous polymerization will occur if contaminated with peroxides, metal salts and polymerization catalysts. Hazardous polymerization may occur upon depletion of inhibitor - may cause heat and pressure build-up in closed containers. Product will undergo hazardous polymerization at temperatures above 150 F (65 C).

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Styrene

Oral LD50	5000 mg/kg - rat
Dermal LD50	> 2000 - (Rat) mg/kg
Inhalation LC50	11.8 mg/l (4 hours) rat

Eye Effects:

Studies indicate that exposures to concentrations of styrene above 200 ppm cause irritation of the eyes. Styrene causes transient moderate eye irritation without corneal involvement.

Chronic Toxicity

Components influencing toxicology.

Styrene

NTP	Reasonably anticipated to be human carcinogen
IARC	Group 2B - Possibly Carcinogenic to Humans

Cobalt compounds

IARC	Group 2B - Possibly Carcinogenic to Humans
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Legend

IARC - International Agency for Research on Cancer
 NTP - National Toxicology Program

Repeated dose toxicity

In humans, styrene may cause a transient decrease in color discrimination and effects on hearing. Repeated or prolonged exposure may cause skin irritation and dermatitis, due to defatting properties of the product. May cause damage to the liver, eyes, brain, respiratory system, central nervous system through prolonged or repeated exposure if inhaled. May cause damage to the kidneys, liver, eyes, brain, respiratory system, central nervous system through prolonged or repeated exposure if inhaled.

Sensitization

Not sensitizing.

Mutagenic effects

Styrene has given mixed positive and negative results in a number of mutagenicity tests. Styrene was not mutagenic without metabolic activation but gave negative and positive mutagenic results with metabolic activation.

Developmental Toxicity

Results from studies in experimental animals indicate little or no potential for styrene to produce developmental toxicity.

Target organ(s)

Liver, Central nervous system (CNS), Respiratory system, Kidney.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Styrene

Log Kow	2.95
Bioconcentration factor (BCF)	74
Algae	EC50 = 1.4 mg/L (Pseudokirchneriella subcapitata) (72h)
	EC50 0.46 - 4.3 mg/L (Pseudokirchneriella subcapitata) (72h)
Aquatic Invertebrates	EC50 3.3 - 7.4 mg/L (Daphnia magna) (48h)
Fish	LC50 3.24 - 4.99 mg/L (Pimephales promelas) (96 h) flow-through
	LC50 19.03 - 33.53 mg/L (Lepomis macrochirus) (96 h) static
	LC50 6.75 - 14.5 mg/L (Pimephales promelas) (96 h) static
	LC50 58.75 - 95.32 mg/L (Poecilia reticulata) (96 h) static

Cobalt compounds

Algae EC50 = 0.639 mg/L

Other adverse effects No information available.

13. DISPOSAL CONSIDERATIONS

Disposal Considerations Hazardous waste. Can be incinerated, when in compliance with local regulations.

Contaminated packaging Empty containers should be taken for local recycling, recovery or waste disposal.

US EPA Waste Number D001 (IGNITABLE): When discarded in its purchased form, this material would be regulated under 40 CFR 261.21 as EPA Hazardous Waste Number D001 based on the characteristic of ignitability.

14. TRANSPORT INFORMATION

DOT

UN-No UN1866
 Proper Shipping Name RESIN SOLUTION
 Hazard Class 3
 Packing Group III
 NAERG: 127

TDG

UN-No UN1866
 Proper Shipping Name RESIN SOLUTION
 Hazard Class CLASS 3
 Packing Group PG III
 NAERG: 127

IATA

UN-No UN1866
 Proper Shipping Name RESIN SOLUTION
 Hazard Class 3
 Packing Group III
 Packing Instructions 355; 366
 NAERG: 127

IMDG/IMO

UN-No UN1866
 Proper Shipping Name RESIN SOLUTION
 Hazard Class CLASS 3
 Packing Group PG III
 EmS-No F-E, S-E
 NAERG: 127

15. REGULATORY INFORMATION

International Inventories

TSCA Inventory Status: All components of this material are listed on the US Toxic Substances Control Act (TSCA) inventory.

Canadian Inventory Status: All components of this material are listed on the Canadian Domestic Substances List (DSL).

Australian Inventory Status: This product contains only chemicals which are currently listed on the Australian Inventory of Chemical Substances.

Korean Inventory Status: This product contains only chemicals which are currently listed on the Korean Chemical Substances List.

Philippine Inventory:	This product contains one or more chemicals currently not on the Philippine Inventory of Chemicals and Chemical Substances.
Japan ENCS:	This product contains one or more chemicals currently not on the Japanese Inventory of Existing and New Chemical Substances.
Chinese IECS:	This product contains one or more chemicals currently not on the Chinese Inventory of Existing Chemical Substances.
New Zealand Inventory:	All components of this material are listed on or are exempt from the New Zealand Inventory of Chemicals.
Taiwan Existing Chemical Substances Inventory:	Not Determined.

US Federal Regulations**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Component	CAS No	Weight-%	SARA 313 Status
Styrene	100-42-5	33.3	Listed
Cobalt compounds		< 0.2	Listed

SARA 311/312 Hazardous Categorization

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	Yes

TSCA 12(b) - Export Notification:

This material does not contain any components that are subject to the US Toxic Substances Control Act (TSCA) Section 12(b) Export Notification requirements.

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following HAPs:

Component	CAS No	Weight-%	HAPS data
Styrene	100-42-5	33.3	
Cobalt compounds		< 0.2	Listed

CERCLA

This product contains the following reportable quantities:

Component	40 CFR 302.4 RQ	40 CFR 355 EHS TPQs
Styrene	1000 lb 454 kg	

Chemical Weapons Convention (CWC)

This product does not contain any listed substances.

State Regulations**California Proposition 65**

W A R N I N G: This material contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm.

Canada

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

WHMIS Hazard Class B2 - Flammable liquid
 D2A - Very toxic materials
 D2B - Toxic materials
 F - Dangerously reactive material

Component	CAS No	WHMIS Ingredient Disclosure List
Styrene	100-42-5	0.1 %

16. OTHER INFORMATION

Prepared By Reichhold Product Regulatory Department
 Phone Number: 919-990-7500

Revision Date: 10/Jun/2014

Revision Number 1

Revision Summary: None

Former date: New

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End of Material Safety Data Sheet