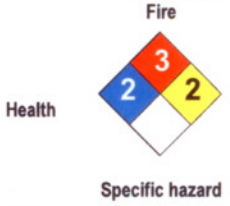
AOC®
World Leader in Resin Technology

Material Safety Data Sheet

MSDS #: 12319V5

WHMIS (Canada)	NFPA (USA)	HMIS (USA)	Protective clothing
B-2 D-2A D-2B			

Section 1. Chemical product and company identification

Trade name	**K022-ACA-00**
Product type	Vinyl Ester Resin - Halogenated
Chemical family	Halogenated
Material uses	Fire Retardant Resin

Manufacturer

AOC, LLC
950 Highway 57 East
Collierville, TN U.S.A. 38017
Website: www.aoc-resins.com
Phone Number: (901) 854-2800
8am-5pm (Central Time) Mon-Fri

In case of emergency

CHEMTREC (US): 24 hours/7 days (800) 424-9300
CANUTEC (Canada): 24 hours/7 days (613) 996-6666

Section 2. Hazards identification

OSHA status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Routes of entry

Eye contact, Skin contact, Inhalation, Ingestion

Potential acute health effects

Eyes: Severe eye irritant which may result in redness, burning, tearing and blurred vision.
Skin: Skin irritant which may result in burning sensation. Repeated or prolonged skin contact may cause dermatitis.
Ingestion: Ingestion may result in mouth, throat and gastrointestinal irritation, nausea, vomiting and diarrhea.
Inhalation: Inhalation of spray mist or liquid vapors may cause upper respiratory irritation and possible central nervous system effects including headaches, nausea, vomiting, dizziness, drowsiness, loss of coordination, impaired judgement and general weakness.

Potential chronic health effects

CARCINOGENIC EFFECTS:
Styrene:
Classified A4 (not classifiable for human or animal) by ACGIH.
Classified 2B (possible for human) by IARC.
Classified as "reasonably anticipated to be a human carcinogen" by NTP.
An increased incidence of lung tumors was observed in mice from a recent inhalation study. The relevance of this finding is uncertain since data from other long-term animal studies and from epidemiology studies of workers exposed to styrene do not provide a basis to conclude that styrene is carcinogenic to humans.
MUTAGENIC or TERATOGENIC EFFECTS: No known effect according to our database.

Section 3. Composition/information on ingredients

Name	CAS #	% by weight
1) Styrene	100-42-5	38.5

Section 4. First aid measures

Eye contact	Flush with a continuous flow of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Use of buffered baby shampoo will aid in removal. Seek medical attention.
Skin contact	Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. If irritation persists, seek medical attention.
Inhalation	Move the victim to a safe area as soon as possible. Allow the victim to rest in a well-ventilated area. If breathing is difficult, give oxygen. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.
Ingestion	Do not induce vomiting. Seek immediate medical attention.

Section 5. Fire-fighting measures

The product is:	Flammable liquid, Class IC.
Auto-ignition temperature	914°F(490°C) Styrene
Flash point	87.6°F (31°C) Styrene
Flammable limits	**Lower:** 0.9% **Upper:** 6.8% (Styrene)
Products of combustion	May produce carbon monoxide, carbon dioxide, and irritating or toxic vapors including hydrogen bromide and/or bromine.
Fire hazard	Flammable in the presence of open flames, sparks, or heat.
Explosion hazard	Can react with oxidizing materials. Explosive in the form of vapor when exposed to heat or flame. Material may polymerize when container is exposed to heat (fire) and polymerization will increase pressure in a closed container which may cause the container to rupture violently.
Fire-fighting media and instructions	SMALL FIRE: Use carbon dioxide, foam, dry chemical or water fog to extinguish. LARGE FIRE: Evacuate surrounding areas. Use carbon dioxide, foam, dry chemical or water fog to extinguish. Wear self-contained breathing apparatus (SCBA) and full fire-fighting protective clothing. Cool containing vessels with water spray in order to prevent pressure build-up, autoignition or explosion. Prevent run off to sewers or other water ways.

Section 6. Accidental release measures

Small spill	Absorb with an inert material and place in an appropriate waste disposal container.
Large spill	Stop leak if without risk. Eliminate all ignition sources. Contain with an inert material, recover as much as possible and place the remainder in an appropriate waste disposal container. Warn unauthorized personnel to move away. Prevent entry into sewers or confined areas.

Section 7. Handling and storage

Handling	WARNING! Use only in well-ventilated areas. Avoid inhalation and contact with eyes, skin, and clothing. Wear appropriate personal protective equipment for your task. Ground and bond all containers when transferring the material. Empty containers may retain product and product vapor. Do not expose to heat, flame, sparks or other ignition sources such as cutting, welding, drilling, grinding or static electricity. Do not pressurize. Provide adequate safety showers and eyewashes in the area of use.
Storage	To ensure maximum stability, store in closed containers below 75 °F.

Section 8. Exposure controls/personal protection

Exposure limits	Styrene	**ACGIH TLV (United States, 3/2012). Absorbed through skin.** TWA: 20 ppm 8 hour(s). TWA: 85 mg/m³ 8 hour(s). STEL: 40 ppm 15 minute(s). STEL: 170 mg/m³ 15 minute(s). **OSHA PEL Z2 (United States, 11/2006).** TWA: 100 ppm 8 hour(s). AMP: 600 ppm 5 minute(s). CEIL: 200 ppm **NIOSH REL (United States, 6/2009).** TWA: 50 ppm 10 hour(s). TWA: 215 mg/m³ 10 hour(s). STEL: 100 ppm 15 minute(s). STEL: 425 mg/m³ 15 minute(s).
Engineering controls	Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Provide adequate safety showers and eyewashes in the area of use.	
Personal protection	Personal protective equipment may vary depending on the job being performed. **Eye/face:** Wear eye protection such as safety glasses with side shields, splash goggles or face shield with safety glasses. **Skin:** Avoid skin contact. Impervious gloves should be worn. Other items may include long sleeves, lab coats, or impervious jackets. **Respiratory:** Determine if airborne concentrations are below the recommended exposure limits in accordance your company's PPE program and regulatory requirements. If they are not, select a NIOSH-approved respirator that provides adequate protection from the concentration levels encountered. Air-purifying respirators are generally adequate for organic vapors. Use positive pressure, supplied-air respirators if there is potential for an uncontrolled release, if exposure levels are unknown, or under circumstances where air-purifying respirators may not provide adequate protection. Reference OSHA 29 CFR 1910.134.	
Personal protection in case of a large spill	Chemical resistant gloves, full protective suit, and boots. Respiratory protection in accordance with OSHA regulation 29 CFR 1910.134. A self-contained breathing apparatus should be used to avoid inhalation of the product vapors.	

Section 9. Physical and chemical properties

Physical state	Liquid.
Color	Amber.
Odor	Aromatic.
Molecular weight (g/mol)	1000 to 15000
Boiling point	293°F(145°C) Styrene
Melting point	Not available.
pH (1% soln/water)	Not applicable.
Vapor pressure	4.5 mm Hg@ 68°F (20°C) Styrene
Vapor density	3.59 Styrene (Air = 1)
Specific gravity	1.15 to 1.32 (Water = 1)
Partition coefficient: n-octanol/water	Not available.
Evaporation rate	Not available.
Odor threshold	0.14 ppm Styrene
Solubility in water	Slight.
Dispersibility properties	Not dispersed in water.

Section 10. Stability and reactivity

Stability	This product is normally stable, but can become unstable at elevated temperatures and undergo polymerization, which could produce heat and fumes resulting in over-pressurization and rupture in a closed container.
Instability temperature	To ensure maximum stability, store in closed containers below 75 °F.
Conditions of instability	Heat.
Incompatibility with various substances	Polymerizes in the presence of organic peroxides, oxidizing materials, or heat.
Corrosivity	Our database contains no additional remark on the corrosivity of this product

Section 11. Toxicological information

Toxicity to animals	Name	Result	Species	Dose	Exposure
	Styrene	LD50 Intraperitoneal	Rat	898 mg/kg	-
		LD50 Oral	Rat	5000 mg/kg	-
		LD50 Oral	Rat	2650 mg/kg	-
		TDLo Dermal	Rat	26.4 mg/kg	-
		LC50 Inhalation Vapor	Rat	11800 mg/m3	4 hours
		LC50 Inhalation Gas.	Rat	2770 ppm	4 hours

Special remarks on toxicity to animals	Lung effects that have been observed in mouse studies have been shown in some studies to be the result of mouse specific enzymes (not in humans) that enable the mechanism for producing cancer in mice.
Special remarks on chronic effects on humans	A study of long term effects of workers exposed to styrene levels in the range of 25-35 ppm, 8 hour TWA, indicated a possible mild hearing loss.
Special remarks on other toxic effects on humans	No additional remark.

Section 12. Ecological information

Ecotoxicity	Toxic to aquatic organisms. Should not be released to sewage system or other bodies of water at concentrations above limits established in regulations or permits.

Section 13. Disposal considerations

Waste disposal	Recycle to process, if possible. Consult your local or regional authorities. Ignitable characteristic.

Section 14. Transport information

DOT	UN1866; Resin Solution; 3; III.	**Labels**
TDG	UN1866; Resin Solution; 3; III.	
IATA/IMDG	UN1866; Resin Solution; 3; III	
Additional information	US regulations require the reporting of spills when the amount exceeds the Reportable Quantity (RQ) for specific components of this material. See CERCLA in Section 15, Regulatory Information, for the Reportable Quantities.	

Section 15. Regulatory information

Other regulations

This section does not reference all applicable regulatory compliance lists.

TSCA: All ingredients are listed or compliant with TSCA.

DSL: All ingredients are listed or compliant with the NSNR.

Proposition 65 Warning: This product contains a chemical(s) known to the State of California to cause cancer, birth defects and/or reproductive harm.

SARA 302 component(s): None.

SARA 313 component(s): Styrene.

CERCLA(RQ): Styrene - 1000 lbs. (453.6 kg)

Section 16. Other information

Prepared by AOC, LLC - Corporate Regulatory Affairs. CA; FL; ON; TN

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