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BIOVARNISH CLEAR COAT

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1. Substance/preparation and company identification

Substance/preparation Emergency Response Information Compar	
Chemical family:	Bioindustries.CV
Polymer, dispersion	JI Sidikan no 94 Yogyakarta Indonesia Phn/fax. 0274-388301
Synonyms: ACRYLATE POLYMER DISPERSION	Email. info@bioindustries.co.id

2. Composition/information on ingredients

Chemical name	CAS Number	Content (W/W)	
Acrylic polymer(s)	Not Hazardous	30 - 35 %	
Aquaammonia	1336-21-6	< 0,005%	
Water	7732-18-5	65 - 70 %	

3. Hazard identification

Emergency overview

INHALATION OF VAPOR OR MIST CANS CAUSE HEADACHE, NAUSEA AND IRRITATION OF THE NOSE, THROAT AND LUNGS.

MAY CAUSE EYE AND SKIN IRRITATION

Potential health effects

Primary routes of exposure

- Inhalation
- eye contact
- Skin contact

Eyes:

Direct contact with materialcan cause the Following: slightirritation

Skin:

Prolonged or repeated skincontact cans cause the Following: slightirritation

Inhalation:

Inhalation of vapor or mistcan cause the Following: irritationof nose, throat, and lungs, headache, nausea

Repeated dose toxicity:

No other known chronic effects.

4. First-aid measures

General advice:

Remove contaminated clothing.

If inhaled:

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.



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If on skin:

Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

If in eyes:

Flush with copious amounts of water for at least 15 minutes. If irritation develops, seek medical attention.

If swallowed:

Immediately rinse mouth and then drink plenty of water, do not induce vomiting, seek medical attention. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

5. Fire-fighting measures

Flash point: > 300 °F (Unspecified) Autoignition: No data available.

Suitable extinguishing media:

water fog, foam, dry extinguishing media

Hazards during fire-fighting:

No particular hazards known.

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

6. Accidental release measures

Personal precautions:

Wear appropriate respiratory protection. Use personal protective clothing. Ensure adequate ventilation.

Environmental precautions:

Observe environmental regulations.

Cleanup:

Spills should be contained, solidified, and placed in suitable containers for disposal.

Further information:

High risk of slipping due to leakage/spillage of product.

7. Handling and storage

Handling

Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Keep container tightly closed. Do not breathe vapors, mist or gas.

Storage

Storage conditions : The product as supplied slowly evolves carbondioxide gas. Storage temperature:1 - 49 °C (34 - 120 °F)

Further information on storage conditions :

Keep from freezing - product stability may be affected. STIR WELL BEFORE USE.

Otherdata : Monomer vapors can be evolved when material is heated during processing operations. See SECTION 8, for types ofventilation required.



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8. Exposure controls and personal protection Exposure limits:

Substance : aqua ammonia

Regulation	Type of listing	Value
ACGIH	TWA	25 ppm
ACGIH	STEL	35ppm
NIOSH/GUIDE	REL	18 mg/m3 25 ppm
NIOSH/GUIDE	STEL:	27 mg/m3 35 ppm
OSHA_TRANS	PEL	35 mg/m3 50 ppm
Z1A	STEL	27 mg/m3 35 ppm

Advice on system design:

Provide local exhaust ventilation to maintain recommended P.E.L.

Personal protective equipment

Respiratory protection:

Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator as needed.

Hand protection:

Chemical resistant protective gloves

Eye protection:

Tightly fitting safety goggles (chemical goggles). Wear face shield if splashing hazard exists.

General safety and hygiene measures:

Hands and/or face should be washed before breaks and at the end of the shift. Avoid contact with skin and eyes.

9. Physical and chemical properties

: liquid pasta	
: specified odors	
: milky white	
: 7 - 8.5 Information on: water	
: 30 °C	
: 100 °C	
: 17.5 mmHg (20 °C) Information on: water	
: < 1.0 water (68 °F)	
: 8.58 lb/USg	
1-	
: <1.00 Water	
: 30 – 35 %	
: 60-65 %	
: soluble	
 : Avoid extreme heat. : no identified : The product is chemically stable. : Hazardous decomposition products: carbon dioxide hydrocarbons : No corrosive effect on metal. 	

11. Toxicological information Acute toxicity



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Chronic toxicity

Other information:

Based on our experience and the information available, no adverse health effects are expected if handled as recommended with suitable precautions for designated uses.

The statement was derived from products of similar composition.

12. Ecological information

Environmental fate and transport

Biodegradation:

 Test method
 : OECD 302B; ISO 9888; 88/302/EEC,part C

 Method of analysis
 : DOC reduction

 Degree of elimination : > 70 %

 Evaluation
 : Easily eliminated from water.

 The product can be virtually eliminated from water by abiotic processes e.g.adsorption onto activated sludge.

Bioaccumulation:

Based on its structural properties, the polymer is not biologically available. Accumulation in organisms is not to be expected.

Environmental toxicity

Acute and prolonged toxicity to fish:

OECD Guideline 203 static zebra fish/LC50 (96 h): > 100 mg/l

Acute toxicity to aquatic invertebrates:

OECD Guideline 202, part 1 static Daphnia magna/EC50 (48 h): > 100 mg/l

Toxicity to aquatic plants:

OECD Guideline 201 green algae/EC50 (72 h): > 100 mg/l Nominal concentration.

Toxicity to microorganisms:

DIN EN ISO 8192-OECD 209-88/302/EEC,P. C activated sludge, domestic/EC20 (0.5 h): > 100 mg/l The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological. treatment plants in appropriate low concentrations.

Other ecotoxicological advice:

Do not release untreated into natural waters. At the present state of knowledge, no negative ecological effects are expected.

Ecological data are determined by analogy.

13. Disposal considerations

Waste disposal of substance:

Incinerate or dispose of in a licensed facility. Do not discharge into drains/surface waters/groundwater.

Container disposal:

Dispose of in a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport information

Land transport



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USDOT Not classified as a dangerous good under transport regulations

Sea transport

IMDG Not classified as a dangerous good under transport regulations

Air transport

IATA/ICAO Not classified as a dangerous good under transport regulations

15. Regulatory information

OSHA hazard category: Not hazardous SARA hazard categories (EPCRA 311/312): Not hazardous

Workplace Classification

This product is considered non-hazardous under the OSHA Hazard Communication Standard (29CFR1910.1200). This product is not a' controlled product' under the Canadian Workplace Hazardous Materials Information System (WHMIS).

SARA TITLE III: Section311/312 Categorizations (40CFR370):

This product is not a hazardous chemical under 29CFR1910.1200, and therefore is not covered by Title III of SARA.

SARATITLE III: Section 313 Information (40CFR372)

Thisproduct does not contain a chemical which is listed in Section 313 at or above minims concentrations.

CERCLA Information (40CFR302.4)

Releases of this material to air, land, or water are not reportable to the National Response Center under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) or to state and local emergency planning committees under the Superfund Amendments and Reauthorization Act (SARA) Title III Section304.

US. Toxic Substances Control Act (TSCA):

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance 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 Act.

16. Other information

Health: 1

HMIS Hazard Rating

Fire : 0 Reactivity: 0

HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard.

A value of zero means that the substance possesses essentially no hazard; a rating of four indicates high hazard.

<u>Legend</u>

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 (STEL):
TLV	Threshold Limit Value
TWA	Time Weighted Average (TWA):



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This material safety data sheet and the information it contains is offered to you in good faith as accurate. We have reviewed any information contained in this data sheet which we received from sources outside the company. We believe that information to be correct but cannot guarantee its accuracy or completeness. Health and safely precautions in this data sheet may not be adequate for all individuals and/or situations. It is the users obligation to evaluate and use this product safety and to comply with all applicable national/international laws and regulations. No statement made in this data sheet shall be construed as a permission or recommendation for the use of any product in a manner that might infringe existing patents. No warranty is made, either expressed or implied. The data are based on our present knowledge. However, they shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

END OF DATA SHEET