SAFETY DATA SHEET

Product name: LATEX 100

1. IDENTIFICATION

Product name: LATEX 100

Recommended use of the chemical and restrictions on use
Identified uses: This product is used in coatings, textiles, binders and adhesives.

COMPANY IDENTIFICATION

ZIRCON INDUSTRIES INC.
4920 Commerce Pky #9
CLEVELAND, OHIO 44128
(216) 595-0200

EMERGENCY TELEPHONE NUMBER
Local Emergency Contact:

2. HAZARDS IDENTIFICATION

Hazard classification
This material is not hazardous under the criteria of the Federal OSHA Hazard Communication Standard 29CFR 1910.1200.

Other hazards
no data available

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a mixture.

Component	CASRN	Concentration
Vinyl acetate/acrylic copolymer	Not Hazardous	>= 39.0 - <= 43.0 %
vinyl acetate	108-05-4	<= 900.0 PPM
Acetaldehyde	75-07-0	<= 950.0 PPM
Individual acrylic monomers	Not Required	<= 0.1 %
Aqua ammonia	1336-21-6	< 1.0 %

Formaldehyde	50-00-0	<= 0.1 %
Water	7732-18-5	>= 57.0 - <= 61.0 %

4. FIRST AID MEASURES

Description of first aid measures
Inhalation: Move to fresh air.

Skin contact: Wash with water and soap as a precaution. If skin irritation persists, call a physician.

Eye contact: Rinse with plenty of water. If eye irritation persists, consult a specialist.

Ingestion: Drink 1 or 2 glasses of water. Consult a physician if necessary. Never give anything by mouth to an unconscious person.

Most important symptoms and effects, both acute and delayed: Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

Indication of any immediate medical attention and special treatment needed
Notes to physician: Treatment should be directed at preventing absorption, administering to symptoms (if they occur), and providing supportive therapy.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media: no data available

Special hazards arising from the substance or mixture
Hazardous combustion products: no data available

Unusual Fire and Explosion Hazards: Material can splatter above 100C/212F. Dried product can burn.

Advice for firefighters
Fire Fighting Procedures: no data available

Special protective equipment for firefighters: Wear self-contained breathing apparatus and protective suit.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Keep people away from and upwind of spill/leak. Material can create slippery conditions.

Environmental precautions: CAUTION: Keep spills and cleaning runoff out of municipal sewers and open bodies of water.

Methods and materials for containment and cleaning up: Contain spills immediately with inert materials (e.g., sand, earth). Transfer liquids and solid diking material to separate suitable containers for recovery or disposal.

7. HANDLING AND STORAGE

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

Conditions for safe storage: Keep from freezing - product stability may be affected. STIR WELL BEFORE USE.

Storage stability
Storage temperature: 1 - 49 °C (34 - 120 °F)
Other data: Monomer vapors can be evolved when material is heated during processing operations. See SECTION 8, for types of ventilation required. This material contains residual levels of vinyl acetate monomer and acetaldehyde. Lack of adequate ventilation may result in airborne levels of vinyl acetate monomer and/or acetaldehyde above established exposure limits in the workplace. Monitoring the workplace to determine actual vinyl acetate/acetaldehyde levels is recommended.
Other data: NOTE: Due to minimal levels of microbiocide, this material may degrade and hazardous fumes may develop. Therefore, appropriate ventilation is required when containers are opened.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters
Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
vinyl acetate	Rohm and Haas	TWA	5 ppm
	Rohm and Haas	STEL	15 ppm
	ACGIH	TWA	10 ppm
	ACGIH	STEL	15 ppm
Acetaldehyde	Rohm and Haas	TLV-C	10 ppm
	ACGIH	C	25 ppm
	OSHA Z-1	TWA	360 mg/m3 200 ppm
Aqua ammonia	Rohm and Haas	TWA	10 ppm, As Ammonia
	OSHA Z-1	TWA	35 mg/m3 50 ppm
	ACGIH	TWA	25 ppm, Ammonia
	ACGIH	STEL	35 ppm, Ammonia
Formaldehyde	Rohm and Haas	TLV-C	0.3 ppm
	ACGIH	C	0.3 ppm
	OSHA CARC	PEL	0.75 ppm
	ACGIH	C	DSEN, RSEN
	OSHA CARC	STEL	2 ppm
	OSHA Z-1		Absorbed via skin
	OSHA Z-1		
	OSHA Z-2		

Exposure controls

Engineering controls: Use local exhaust ventilation with a minimum capture velocity of 100 ft/min. (0.5 m/sec.) at the point of vapor evolution. Refer to the current edition of Industrial Ventilation: A Manual of Recommended Practice published by the American Conference of Governmental Industrial Hygienists for information on the design, installation, use, and maintenance of exhaust systems.

Protective measures: Facilities storing or utilizing this material should be equipped with an eyewash facility.

Individual protection measures

Eye/face protection: Safety glasses with side-shields Eye protection worn must be compatible with respiratory protection system employed.

Skin protection

Hand protection: The glove(s) listed below may provide protection against permeation. (Gloves of other chemically resistant materials may not provide adequate protection): Neoprene gloves

Respiratory protection: A respiratory protection program meeting OSHA 1910.134 and ANSI Z88.2 requirements or equivalent must be followed whenever workplace conditions warrant a respirator's use. None required if airborne concentrations are maintained below the exposure limit listed in Exposure Limit Information. Above the exposure limit: Wear a properly fitted NIOSH approved (or equivalent) self-contained breathing apparatus in the pressure demand mode, OR full-facepiece, airline respirator in the pressure demand mode with emergency escape provision.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	
Physical state	liquid Milky
Color	white
Odor	no data available
Odor Threshold	no data available
pH	5.0 - 9.5
Melting point/range	no data available
Freezing point	no data available
Boiling point (760 mmHg)	100.00 °C (212.00 °F) Water
Flash point	Noncombustible
Evaporation Rate (Butyl Acetate = 1)	<1.00 Water
Flammability (solid, gas)	Not Applicable
Lower explosion limit	Not Applicable
Upper explosion limit	Not Applicable
Vapor Pressure	22.6666667 mmHg at 20.00 °C (68.00 °F) Water
Relative Vapor Density (air = 1)	<1.0000 Water
Relative Density (water = 1)	1.0000 - 1.2000
Water solubility	Dilutable
Partition coefficient: n-octanol/water	no data available
Auto-ignition temperature	Not Applicable
Decomposition temperature	no data available

Dynamic Viscosity	1,500.000 mPa.s maximum1,500.000 mPa.s maximum
Kinematic Viscosity	no data available
Explosive properties	no data available
Oxidizing properties	no data available
Molecular weight	no data available
Percent volatility	57.000 - 61.000 %

NOTE: The physical data presented above are typical values and should not be construed as a specification.

10. STABILITY AND REACTIVITY

Reactivity: no data available

Chemical stability: no data available

Possibility of hazardous reactions: None known.
Product will not undergo polymerization.
Stable

Conditions to avoid: no data available

Incompatible materials: There are no known materials which are incompatible with this product.

Hazardous decomposition products: Thermal decomposition may yield the following: acetaldehyde acrylic monomers vinyl acetate monomer

11. TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute toxicity

Acute oral toxicity
LD50, Rat, > 5,000 mg/kg

Acute dermal toxicity
LD50, Rabbit, > 5,000 mg/kg

Acute inhalation toxicity
Product test data not available.

Skin corrosion/irritation
slight to moderate skin irritation

Serious eye damage/eye irritation
slight to moderate irritation

Sensitization
Product test data not available.

Specific Target Organ Systemic Toxicity (Single Exposure)
Product test data not available.

Specific Target Organ Systemic Toxicity (Repeated Exposure)
Vinyl acetate vapors were shown to cause tumors of the respiratory tract of laboratory rats and mice in lifetime inhalation studies at high exposure levels (2112 mg/m3).

Carcinogenicity
Product test data not available.

Teratogenicity
Product test data not available.

Reproductive toxicity
Product test data not available.

Mutagenicity
Product test data not available.

Aspiration Hazard
Product test data not available.

Additional information
No data are available for this material. The information shown is based on profiles of compositionally similar materials.

COMPONENTS INFLUENCING TOXICOLOGY:

vinyl acetate

Acute inhalation toxicity
Vapor concentrations are attainable which could be hazardous on single exposure. Vapor may cause irritation of the upper respiratory tract (nose and throat).

LC50, Rat, 4 Hour, vapour, 14.084 - 15.810 mg/l

Sensitization
Skin contact may cause an allergic skin reaction in a small proportion of individuals.
Did not demonstrate the potential for contact allergy in mice.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
May cause respiratory irritation.
Route of Exposure: Inhalation
Target Organs: Respiratory Tract

Carcinogenicity
Vinyl acetate has caused cancer in some laboratory animals exposed to high vapor levels in long-term studies; tumors and other respiratory tract lesions occurred secondarily to chronic irritation. Vinyl acetate has caused tumors of the gastrointestinal tract in a drinking water

study. Tumors occurred only at high doses, and mechanistic studies indicate that they occurred secondarily to irritation.

Teratogenicity
Did not cause birth defects or any other fetal effects in laboratory animals.

Reproductive toxicity
In animal studies, did not interfere with reproduction.

Mutagenicity
In vitro genetic toxicity studies were negative in some cases and positive in other cases.

Animal genetic toxicity studies were negative.

Aspiration Hazard
Based on available information, aspiration hazard could not be determined.

Acetaldehyde

Acute inhalation toxicity
Easily attainable vapor concentrations may cause unconsciousness and death. Excessive exposure may cause severe irritation to upper respiratory tract (nose and throat) and lungs. Symptoms of excessive exposure may be anesthetic or narcotic effects; dizziness and drowsiness may be observed. May cause nausea and vomiting.

LC50, Rat, 4 Hour, vapour, 24 mg/l

Sensitization
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant information found.

Specific Target Organ Systemic Toxicity (Single Exposure)
May cause respiratory irritation.
Route of Exposure: Inhalation
Target Organs: Respiratory Tract

Carcinogenicity
Has caused cancer in laboratory animals.

Teratogenicity
No relevant data found.

Reproductive toxicity
No relevant data found.

Mutagenicity
In vitro genetic toxicity studies were negative in some cases and positive in other cases.
Animal genetic toxicity studies were negative in some cases and positive in other cases.

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

Aqua ammonia

Acute inhalation toxicity
LC50, Rat, male, 1 Hour, dust/mist, 9.850 mg/l

Sensitization
For skin sensitization:
No relevant data found.

For respiratory sensitization:
No relevant data found.

Carcinogenicity
Did not cause cancer in laboratory animals.

Teratogenicity
Available data are inadequate for evaluation of potential to cause fetotoxicity.

Reproductive toxicity
Available data are inadequate to determine effects on reproduction.

Mutagenicity
In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

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

Formaldehyde

Acute inhalation toxicity
LC50, Rat, 4 Hour, vapour, 0.578 mg/l

Sensitization
Has caused allergic skin reactions in humans.
Has caused allergic skin reactions when tested in guinea pigs.

For respiratory sensitization:
No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)
Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Carcinogenicity
Has caused cancer in humans. Has caused cancer in laboratory animals.

Teratogenicity
Has been toxic to the fetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

Reproductive toxicity
No data available.

Mutagenicity
In vitro genetic toxicity studies were negative in some cases and positive in other cases.
Animal genetic toxicity studies were negative in some cases and positive in other cases.

Aspiration Hazard
Aspiration into the lungs may occur during ingestion or vomiting, causing tissue damage or lung injury.

Carcinogenicity

Component	List	Classification
vinyl acetate	IARC	Group 2B: Possibly carcinogenic to humans
	ACGIH	A3: Confirmed animal carcinogen with unknown relevance to humans.
Acetaldehyde	IARC	Group 2B: Possibly carcinogenic to humans
	US NTP	Reasonably anticipated to be a human carcinogen
	ACGIH	A2: Suspected human carcinogen
Formaldehyde	IARC	Group 1: Carcinogenic to humans
	OSHA CARC	OSHA specifically regulated carcinogen
	ACGIH	A2: Suspected human carcinogen

12. ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

General Information
There is no data available for this product.

Toxicity

vinyl acetate

Acute toxicity to fish
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).
LC50, Pimephales promelas (fathead minnow), 96 Hour, 19 - 28 mg/l, Method Not Specified.

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), semi-static test, 48 Hour, 12.6 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth rate inhibition, 12.7 mg/l, OECD Test Guideline 201 or Equivalent
EC50, Pseudokirchneriella subcapitata (green algae), 72 Hour, Growth inhibition (cell density reduction), 8.81 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
EC50, Bacteria, 16 Hour, 380 mg/l

Acetaldehyde

Acute toxicity to fish
Material is slightly toxic to aquatic organisms on an acute basis (LC50/EC50 between 10 and 100 mg/L in the most sensitive species tested).
LC50, Pimephales promelas (fathead minnow), flow-through test, 96 Hour, 30.8 - 37.2 mg/l

Acute toxicity to aquatic invertebrates
EC50, Daphnia magna (Water flea), 48 Hour, 48.3 mg/l

Acute toxicity to algae/aquatic plants
EC50, Freshwater algae (Anabaena fols-aquae), 240 Hour, 4,528 - 16,244 mg/l

Toxicity to bacteria
EC50, Photobacterium phosphoreum, 0.08 Hour, 342 mg/l

Aqua ammonia

Acute toxicity to fish
Material is highly toxic to aquatic organisms on an acute basis (LC50/EC50 between 0.1 and 1 mg/L in the most sensitive species tested).
LC50, Fish., 96 Hour, 0.89 mg/l

Acute toxicity to aquatic invertebrates
LC50, Daphnia magna (Water flea), static test, 48 Hour, 101 mg/l

Formaldehyde

Acute toxicity to fish
Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).
LC50, Bluegill sunfish (Lepomis macrochirus), flow-through test, 96 Hour, 50 mg/l
LC50, striped bass (Morone saxatilis), static test, 96 Hour, 6.7 mg/l
LC50, Oncorhynchus mykiss (rainbow trout), static test, 96 Hour, 44 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates
EC50, Daphnia pulex (Water flea), static test, 48 Hour, 5.8 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants
EC50, Desmodesmus subspicatus (green algae), Static, 72 Hour, Growth rate, 4.89 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria
EC50, activated sludge, 3 Hour, 19.6 mg/l, OECD 209 Test

Chronic toxicity to fish
NOEC, Oryzias latipes (Orange-red killifish), flow-through, 28 d, mortality, >= 48 mg/l

Persistence and degradability

vinyl acetate

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 82 - 98 %
Exposure time: 14 d
Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 1.67 mg/mg

Chemical Oxygen Demand: 1.53 - 1.77 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	34 - 61 %
10 d	34 - 74 %
20 d	32 - 95 %

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 9.7 - 12 Hour
Method: Estimated.

Acetaldehyde

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Not applicable
Biodegradation: 80 %
Exposure time: 14 d
Method: OECD Test Guideline 301C or Equivalent

Theoretical Oxygen Demand: 1.82 mg/mg

Chemical Oxygen Demand: 0.63 mg/mg Dichromate
0.14 mg/mg

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 7.6 Hour
Method: Estimated.

Aqua ammonia

Biodegradability: Material is expected to be readily biodegradable. Biodegradation may occur under aerobic conditions (in the presence of oxygen).

Theoretical Oxygen Demand: 3.76 mg/mg Estimated.

Formaldehyde

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.
10-day Window: Pass
Biodegradation: 90 %
Exposure time: 28 d
Method: OECD Test Guideline 301D or Equivalent

Theoretical Oxygen Demand: 1.07 mg/mg

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	> 100 %
10 d	> 100 %
20 d	> 100 %

Photodegradation
Test Type: Half-life (indirect photolysis)
Sensitizer: OH radicals
Atmospheric half-life: 15.8 Hour
Method: Estimated.

Bioaccumulative potential

vinyl acetate
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.73 Measured
Bioconcentration factor (BCF): 3.16 Fish. Estimated.

Acetaldehyde
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): -0.34 Measured

Aqua ammonia
Bioaccumulation: Partitioning from water to n-octanol is not applicable.

Formaldehyde
Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).
Partition coefficient: n-octanol/water(log Pow): 0.35 Method Not Specified.
Bioconcentration factor (BCF): 3 Fish. Estimated.

Mobility in soil

vinyl acetate
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 24 Estimated.

Acetaldehyde
Potential for mobility in soil is very high (Koc between 0 and 50).
Partition coefficient(Koc): 1.5 Estimated.

Formaldehyde
Potential for mobility in soil is very high (Koc between 0 and 50).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.
Partition coefficient(Koc): 1 Estimated.

13. DISPOSAL CONSIDERATIONS

Disposal methods: Coagulate the emulsion by the stepwise addition of ferric chloride and lime. Remove the clear supernatant and flush to a chemical sewer. For disposal, incinerate or landfill at a permitted facility in accordance with local, state, and federal regulations.

14. TRANSPORT INFORMATION

DOT

Not regulated for transport

Classification for SEA transport (IMO-IMDG):

Not regulated for transport

Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code

Consult IMO regulations before transporting ocean bulk

Classification for AIR transport (IATA/ICAO):

Not regulated for transport

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

15. REGULATORY INFORMATION

OSHA Hazard Communication Standard
This product is considered non-hazardous under the OSHA Hazard Communication Standard (29CFR1910.1200).

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312
This product is not a hazardous chemical under 29CFR 1910.1200, and therefore is not covered by Title III of SARA.

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313
This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103
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 Section 304.

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.

California (Proposition 65)
This product may contain a component or components known to the State of California to cause cancer and/or reproductive harm.

16. OTHER INFORMATION

Hazard Rating System
HMIS

Health	Flammability	Physical Hazard
2	0	0

Revision
Identification Number: 101101737 / 0001 / Issue Date: 05/28/2015 / Version: 2.1
Most recent revision(s) are noted by the bold, double bars in left-hand margin throughout this document.

Legend

Absorbed via skin	Absorbed via skin
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
C	Ceiling limit
DSEN, RSEN	Skin and respiratory sensitizer
OSHA CARC	OSHA Specifically Regulated Chemicals/Carcinogens
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
OSHA Z-2	USA. Occupational Exposure Limits (OSHA) - Table Z-2
PEL	Permissible exposure limit (PEL)
Rohm and Haas	Rohm and Haas OEL's
STEL	Short term exposure limit
TLV-C	Ceiling Limit Value
TWA	Time weighted average

Information Source and References
This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

Zircon Industries:
urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this

(M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.