

SAFETY DATA SHEET

SECTION 1. IDENTIFICATION

PRODUCT IDENTIFIER

Product Code **AM-2120**
Product Name **EX-OPAQUE WHITE**
Product Category **MODIFIED ACRYLIC SERIES SCREEN INK (AM)**

RECOMMENDED USE OF THE CHEMICAL AND RESTRICTIONS ON USE

Recommended Use **PRINTING OPERATION**

DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET

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EMERGENCY TELEPHONE NUMBER

Chemtrec 1-613-996-6666

SECTION 2. HAZARDS IDENTIFICATION

CLASSIFICATION

Acute Toxicity - Inhalation	Category 4 - (H332)
Serious Eye Damage/ Irritation	Category 2 - (H319)
Flammable Liquid	Category 3 - (H226)

LABEL ELEMENTS



SIGNAL WORD: WARNING

HAZARD STATEMENTS

H332 Harmful if inhaled
H319 Causes serious eye irritation
H226 Flammable liquid and vapor

PRECAUTIONARY STATEMENTS

P210 – Keep away from heat/ sparks/open flames/ hot surfaces – No smoking.

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC)

May be harmful in contact with skin.

SECTION 3. COMPOSITION/ INFORMATION ON INGREDIENTS

Mixture:

COMPONENTS	WEIGHT %	CAS NO	NOTE
TITANIUM DIOXIDE	10-30	13463-67-7	
2-BUTOXY ETHYL ACETATE	10-30	112-07-02	
CYCLOHEXANONE	7-13	108-94-1	
2-METHOXY-1-METHYL ETHYL ACETATE	10-30	108-65-6	
1-METHYL-2-PYRROLIDONE	5-10	872-50-4	
ALUMINUM HYDROXIDE	1-5	21645-51-2	
SILICON DIOXIDE	1-5	7631-869	

SECTION 4. FIRST AID MEASURES

DESCRIPTION OF FIRST AID MEASURES**General Advice**

Show this safety data sheet to the doctor in attendance.

Eye Contact

Immediately flush with plenty of water. After flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops and persists.

Skin Contact

Wash immediately with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. If irritation such as redness, rash, blistering develops, get medical attention.

Inhalation

Remove person to fresh air and keep comfortable for breathing. If breathing is irregular or stopped, administer artificial respiration. Get medical attention immediately.

Ingestion

Do Not induce vomiting. Never give anything by mouth to an unconscious person. Call a physician or poison control immediately.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED

None under normal use conditions.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT

Notes to Physician: Treat symptomatically.

SECTION 5. FIRE FIGHTING PROCEDURE

SUITABLE EXTINGUISHING MEDIA

Foam, Carbon Dioxide (CO₂), Dry chemical, and Water Spray. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

UNSUITABLE EXTINGUISHING MEDIA:

No information available.

SPECIFIC HAZARDS ARISING FROM THE CHEMICAL

Thermal decomposition can lead to release of irritating gases and vapors. May emit toxic fumes under fire conditions.

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS

As in any fire, wear self contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Cool containers/ tanks with water spray. Sealed containers may rupture when heated.

SECTION 6. ACCIDENTAL RELEASE MEASURE

PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES

Personal Precautions

Remove all sources of ignition. Ventilate the area. Avoid contact with eyes, skin, and clothing. Avoid breathing dust or vapor. Evacuate personnel to safe areas. Keep people away from upwind of spill/leak.

Environmental Precautions

Prevent products from entering drains. Prevent further leakage or spillage if safe to do so. Keep out of drains, sewers, ditches. Local authorities should be notified if significant spillages cannot be contained.

Methods and Material for Containment and Cleanup

Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local/ national regulations (see section 13). Use clean non-sparking tools to collect absorbed material.

SECTION 7. HANDLING AND STORAGE

PRECAUTIONS FOR SAFE HANDLING

Handling

Use personal protective equipment as required. Do not eat, drink, or smoke when using this product. Ensure adequate ventilation.

CONDITIONS FOR SAFE STORAGE INCLUDING ANY INCOMPATIBILITIES

Storage

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from open flames, hot surfaces and sources of ignition. Keep container closed when not in use. Keep out of reach of children.

Incompatible Products

Strong acids, strong bases, strong oxidizing and reducing agents.

SECTION 8. EXPOSURE CONTROLS/ PERSONAL PROTECTION

CONTROL PARAMETERS

Exposure Limits

Component	ACGIH TLV	OSHA PEL
Titanium Dioxide 13463-67-7	TWA: 10 mg/m ³	TWA: 10 mg/m ³ (total dust) TWA: 15 mg/m ³ (total dust)
2-Butoxy Ethyl Acetate 112-07-02	TWA: 20 ppm	
2-Methoxy-1-Methyl Ethyl Acetate 108-65-6	TWA: 50 ppm	
Cyclohexanone 108-94-1	TWA: 20 ppm STEL: 50 ppm Skin	TWA: 25 ppm TWA: 100 mg/m ³ TWA: 50 ppm TWA: 200 mg/m ³ Skin
Silicon Dioxide 7631-86-9		TWA: 6 mg/m ³

Component	Ontario TWA EV	Mexico OEL (TWA)
Titanium Dioxide 13463-67-7	TWA: 10 mg/m ³ (total dust)	TWA/LMPE-PPT: 10 mg/m ³ (as Ti) STEL/LMPE-CT: 20 mg/m ³ (as Ti)
2-Butoxy Ethyl Acetate 112-07-02	TWA: 20 ppm	
Cyclohexanone 108-94-1	TWA: 20 ppm TWA: 240 mg/m ³ STEL: 75 ppm STEL: 360 mg/m ³	TWA/LMPE-PPT: 50 ppm TWA/LMPE-PPT: 240 mg/m ³ STEL/LMPE-CT: 75 ppm STEL/LMPE-CT: 360 mg/m ³
1-Methyl-2-Pyrrolidone 872-50-4	TWA: 400 mg/m ³	

APPROPRIATE ENGINEERING CONTROLS**Engineering Measures**

Provide a good standard of general ventilation. Natural ventilation is from doors, windows, etc. Controlled ventilation means air is supplied or removed by powered fan. Users are advised to consider national Occupational Exposure Limits or other equivalent values. In case of insufficient ventilation, wear suitable respiratory equipment.

INDIVIDUAL PROTECTION MEASURES SUCH AS PERSONAL PROTECTIVE EQUIPMENT**Eye /Face Protection:**

Wear safety glasses with side shields (or goggle). If splashes are likely to occur, wear suitable face shield. Ensure the eye wash stations and safety showers are close to the workstation location.

Skin Protection:

Wear impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent contact.

Respiratory Protection:

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations

Handle in accordance with good industrial hygiene and safety practice. Wash hands before eating, drinking or smoking. Wash contaminated clothing before reuse. Avoid contact with eyes, skin and clothing. Wear suitable gloves and eye/face protection. Regular cleaning of equipment, work area and clothing is recommended.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**Information on Basic Physical and Chemical Properties**

Physical State	Viscous Liquid	Appearance	Colored Liquid
Odor	Sharp	Odor Threshold	No information Available
<u>Property</u>	<u>Values</u>	<u>Remarks/ Method</u>	
PH		No Data Available	
Melting Point/ Freezing Point		No Data Available	
Boiling Point/ Boiling Range	> 149 °C/ 300.2 °F		
Flash Point	55 °C/ 131 °F	Penskey Martens Closed Cup (PMCC)	
Evaporation Rate		No Data Available	
Flammability Limit in Air			
Upper Flammability Limit (% vol)		No Data Available	
Lower Flammability Limit (% vol)		No Data Available	
Vapor Pressure		No Data Available	
Vapor Density		Heavier than Air	
Specific Gravity	1.30		
Water Solubility		No Data Available	
Solubility in Other Solvents		No Data Available	
Partition Coefficient: N-Octanol/ Water		No Data Available	
Auto Ignition Temperature		No Data Available	
Decomposition Temperature		No Data Available	
Kinetic Viscosity		No Data Available	
Dynamic Viscosity		No Data Available	
Explosive Property		No Data Available	
Oxidizing Property		No Data Available	

SECTION 10. STABILITY AND REACTIVITY

Reactivity

No information Available

Chemical Stability

Stable under normal condition

Possibility of Hazardous Reactions

None under normal processing

Conditions to Avoid

Keep away from open flames, hot surfaces and sources of ignition

Incompatible Materials

Strong acids, strong bases, reducing agent.

Hazardous Decomposition ProductsThermal decomposition can lead to release of irritating gases and vapors, Carbon Dioxide (CO₂), Carbon Monoxide.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on Likely Routes of Exposure

Inhalation	There is no data for this product
Eye Contact	There is no data for this product
Skin Contact	There is no data for this product
Ingestion	There is no data for this product

Component	CAS No.	Oral LD50
Titanium Dioxide	13463-67-7	>10000 mg/kg (Rat)
2-Butoxy Ethyl Acetate	112-07-2	1600 mg/kg
Cyclohexanone	108-94-1	800 mg/kg (Rat)
2-Methoxy -1 Methyl Ethyl Acetate	105-65-6	8532 mg/kg (Rat)
1-Methyl-2-Pyrrolidone	872-50-4	3598 mg/kg (Rat)
Aluminum Hydroxide	108-94-1	800 mg/kg (Rat)
Silicon Dioxide	7631-869	>5000 mg/kg (Rat)

Component	CAS No.	LD50 Dermal
2-Butoxy Ethyl Acetate	112-07-2	1480 mg/kg (Rabbit)
1-Methyl-2-Pyrrolidone	872-50-4	>5000 mg/kg (Rabbit) 2500 mg/kg (Rat)
2-Methoxy -1 Methyl Ethyl Acetate	105-65-6	>19200 mg/kg (Rabbit)
Silicon Dioxide	7631-869	>2000 mg/kg (Rabbit)

Component	CAS No.	Inhalation LC50
1-Methyl-2-Pyrrolidone	872-50-4	3.1 mg/L (Rat) 4h
Cyclohexanone	108-94-1	8000 ppm (Rat) 4h 10.7 mg/L (Rat) 4h
2-Methoxy -1 Methyl Ethyl Acetate	105-65-6	>5320 ppm (28.7 mg/L)(Rat) vapour
Silicon Dioxide	7631-869	>2.2 mg/L (Rat) 1h

Information on Toxicological Effects**Symptoms**

There is no data for this product.

Delayed and Immediate Effects as well as Chronic Effects from Short and Long Term Exposure.

Skin Corrosion/ Irritation	There is no data for this product.
Eye Damage/ Irritation	There is no data for this product.
Irritation	There is no data for this product.
Corrositivity	There is no data for this product.
Sensitization	There is no data for this product.
Mutagenic Effects	There is no data for this product.
Reproductive Effects	There is no data for this product.
STOT – Single exposure	There is no data for this product.
STOT- Repeated Exposure	There is no data for this product.
Chronic Toxicity	There is no data for this product.
Aspiration Hazard	There is no data for this product.

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen.

Component	CAS No.	IARC
Titanium Dioxide	13463-67-7	Group 2B

Component	CAS No.	ACGIH
2-Butoxy Ethyl Acetate	112-07-2	A3
Cyclohexanone	108-94-1	A3

Component	CAS No.	OSHA
Titanium Dioxide	13463-67-7	X

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

None known

0% of the mixture consists of components of unknown hazards to the aquatic environment.

Component	CAS No.	Algae/ Aquatic Plants
2-Butoxy Ethyl Acetate	112-07-2	72h EC50 <i>Desmodesmus Subspicatus</i> : > 500 mg/L
1-Methyl-2-Pyrrolidone	872-50-4	72h EC50 <i>Desmodesmus Subspicatus</i> : > 500 mg/L
Cyclohexanone	108-94-1	96h EC50 <i>Chlorella Vulgaris</i> : 20 mg/L
2-Methoxy -1 Methyl Ethyl Acetate	105-65-6	96 h EC50 >1000 mg/L or 72h (Green Algae)
Silicon Dioxide	7631-86-9	72 h EC50 <i>Pseudokirchneriella Subcapitata</i> : 440 mg/L

Component	CAS No.	Fish
1-Methyl-2-Pyrrolidone	872-50-4	96h LC50 <i>Pimephales Promelas</i> : 1072 mg/L (static) 96h LC50 <i>Poecilla Reticula</i> : 1400 mg/L (static) 96h LC50 <i>Leudiscus Idus</i> : 4000 mg/L (static) 96h LC50 <i>Lepomis Macrochirus</i> : 832 mg/L (static)
Cyclohexanone	108-94-1	96h LC50 <i>Pimephales Promelas</i> : 481-578 mg/L (flow through)
2-Methoxy -1 Methyl Ethyl Acetate	105-65-6	96 h LC50 Flathead Minnow: 161 mg/L
Silicon Dioxide	7631-86-9	96 h LC50 <i>Brachydario rerio</i> : 5000 mg/L (static)

Component	CAS No.	Crustacea
1-Methyl-2-Pyrrolidone	872-50-4	48 h EC50 <i>Daphnia Magna</i> : 4897 mg/L
2-Methoxy -1 Methyl Ethyl Acetate	105-65-6	48 h EC50 <i>Daphnia Magna</i> : 408 mg/L
Silicon Dioxide	7631-86-9	48 h EC50 <i>Ceriodaphnia Dubia</i> : 7600 mg/L
Cyclohexanone	108-94-1	24 h EC50 <i>Daphnia Magna</i> : 800 mg/L

Persistence and Degradability

No information Available

Bioaccumulation

No information Available

Component	CAS No.	Partition Coefficient
2-Butoxy Ethyl Acetate	112-07-2	1.51
1-Methyl-2-Pyrrolidone	872-50-4	-0.46
Cyclohexanone	108-94-1	0.86

Other Adverse Effects: No information available.

SECTION 13. DISPOSAL CONSIDERATIONS

Waste Treatments Methods

Waste Disposal Methods Contain and dispose of waste according to local regulations.

Contaminated Packaging Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14. TRANSPORT INFORMATION

DOT In Canada and US, this material may be reclassified as a combustible liquid and is not regulated, via Surface transportation, in containers less than 119 gallons or 450 liters [per 49 CFR 173.150 (f)] [per Transportation of Dangerous Goods Regulations/ Clear Language Part 1.33]

UN/ ID No. UN 1210
 Proper Shipping name: Printing Ink
 Hazard Class: 3
 Packing Group: III

ICAO/ IATA/ IMDG/ IMO

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SECTION 15. REGULATORY INFORMATION

International Inventories

All components are listed on the TSCA Inventory. For further information, please contact: Supplier (manufacturer/importer/ downstream user/ distributor.

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	Weight %	Sara 313 –Threshold Value
2-Butoxy Ethyl Acetate 112-07-2	5-10	1.0
1-Methyl-2-Pyrrolidone 872-50-4	1-5	1.0

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

This product contains the following substances which are listed hazardous pollutants (HAPS) under section 112 of the Clear Air Act.

Component	CAS NO.	Weight %
2-Butoxy Ethyl Acetate	112-07-2	5-10

U.S. State Regulations

Component	CAS NO.	Massachusetts Right to Know
Titanium Dioxide	13463-67-7	x
1-Methyl-2-Pyrrolidone	872-50-4	x
Silicon Dioxide	7631-86-9	x
Cyclohexanone	108-94-1	x

Component	CAS NO.	Minnesota Right to Know
Titanium Dioxide	13463-67-7	x
Cyclohexanone	108-94-1	x
Silicon Dioxide	7631-86-9	x

Component	CAS NO.	New Jersey Right to Know
Titanium Dioxide	13463-67-7	x
Cyclohexanone	108-94-1	x
Silicon Dioxide	7631-86-9	x
1-Methyl-2-Pyrrolidone	872-50-4	x
2-Butoxy Ethyl Acetate	112-07-2	x

Component	CAS NO.	Pennsylvania Right to Know
Titanium Dioxide	13463-67-7	x
2-Butoxy Ethyl Acetate	112-07-2	x
Silicon Dioxide	7631-86-9	x
Cyclohexanone	108-94-1	x

California Prop. 65

This product contains chemical(s) known to the State of California to cause cancer and/or to cause birth defects or other reproductive harm.

Component	CAS No.	California Prop. 65
Titanium Dioxide	13463-67-7	Carcinogen
1-Methyl-2-Pyrrolidone	872-50-4	Developmental

Canada

Component	NPRI – National Pollutant Release Inventory
Cyclohexanone 108-94-1	Part 4. Substance as set out in Section 65 of the List of Toxic Substance in Schedule 1 of the Canadian Environmental Protection Act 1999
2-Butoxy Ethyl Acetate 112-07-2	Part 5. Other Groups and Mixtures. Part 4 Substances as set out in Section 65 of the List of Toxic Substance in Schedule 1 of the Canadian Environmental Protection Act 1999
1-Methyl-2-Pyrrolidone 872-50-4	Part 1. Group A Substance. Part 4 Substances as set out in Section 65 of the List of Toxic Substance in Schedule 1 of the Canadian Environmental Protection Act 1999.

SECTION 16. OTHER INFORMATION

HMIS	Health 2*	Flammability 2	Reactivity 0	Personal Protection x
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Key or legend to abbreviations and acronyms used in safety data sheet.**Legend – Section 8: Exposure Controls/Personal Protection**

TWA Time Weighted Average
 STEL Short Term Average
 Ceiling Maximum Limit Value

ACGIH American Conference of Governmental Industrial Hygienist
 A1 Known Human Carcinogen
 A2 Suspended Human Carcinogen
 A3 Animal Carcinogen

IARC International Agency for Research on Cancer
 Group 1 Carcinogenic to Humans
 Group 2A Probably Carcinogenic to Humans
 Group 2B Possibly Carcinogenic to Human

NTP National Toxicity Program
 Known Known Carcinogen
 Reasonably Anticipated to be a Human Carcinogen

OSHA Occupational Health and Safety Administration
 X Present

Date Nov. 24, 2016

DISCLAIMER

This information provided in this Safety Data sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of SDS