

**SAFETY DATA SHEET (SDS)**
**Section 1. Identification**

<b>Product identifier</b>	EXCEL PLUS
<b>Other means of identification</b>	FEXPLUS
<b>Recommended use and restrictions on use</b>	UV screen printing inks and varnishes
<b>Initial supplier identifier</b>	Aria Inks. 101-1079, rue des Forges, Terrebonne, QC, J6Y 0J9 (Canada) Tél. (450) 966-9000
<b>Emergency telephone number/restriction on use</b>	Canada – CANUTEC Number 24 hours 613-996-6666

**Section 2. Hazard Identification**

<b>Classification of hazardous product (name of the category or subcategory of the hazard class)</b>
Acute toxicity, oral and inhalation (Category 4) Skin corrosion/irritation (Category 2) Skin sensitisation (Category 1) Serious eye damage/eye irritation (Category 2A) Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3) Reproductive toxicity (Category 1B) Hazardous to the aquatic environment short/long term hazard (Category 3)
<b>Information elements (symbols, signal words, hazard statements and precautionary statements of the category/subcategory)</b>


**Warning**

H302+H332 Harmful if swallowed, if inhaled.  
 H315 Causes skin irritation.  
 H317 May cause an allergic skin reaction  
 H319 Causes serious eye irritation  
 H335 May cause respiratory irritation  
 H360 May damage fertility or the unborn child  
 H412 Harmful to aquatic life with long lasting effects

**Prevention**

P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood P261 Avoid breathing dust/fume/gas/mist/vapors/spray. P264 Wash hands/nails/face/eyes thoroughly after handling. P270 Do not eat, drink or smoke when using this product P271 Use only outdoors or in a well ventilated area P272 Contaminated work clothing should not be allowed out of the workplace P273 Avoid release to the environment P280 Wear gloves/protective clothing/gloves/eye protection/face protection

**Response**

IF SWALLOWED: P301 + P312 Call a Poison Center/doctor if you feel unwell. P330 Rinse mouth.  
 IF ON SKIN: P302+P352 Wash with plenty of water. P333+P313 If skin irritation or rash occurs: Get medical advice attention. P362 + P364 Take off contaminated clothing and wash it before reuse.  
 IF INHALED: P304 + P340 Remove person to fresh air and keep comfortable for breathing. P312 Call a Poison Center/doctor if you feel unwell.  
 IF IN EYES: P305 + P351 + P338 Rinse cautiously with water. Remove contact lenses, if present and easy to do. Continue rinsing. P337 + P313 If eye irritation persists: Get medical attention.  
 IF EXPOSED OR CONCERNED: P308 + P313 Get medical advice/attention  
 Environment P391 Collect spillage

**Storage**

P403 + P233 Store in a well-ventilated place. Keep container tightly closed P405 Store locked up.

**Disposal**

P501 Dispose of contents/container into safe container in accordance with local, regional or national regulations.

**Other hazards known** | None

**Section 3. Composition/Information on Ingredients**

Chemical name (common name/synonyms)	CAS number or other	Concentration (%)*
Acrylic oligomer	----	< 30 %
Glycol Ether Acrylated Monomers	----	< 10 %
Vinyl Monomers	----	< 10 %
Acrylated Monomer	----	15 - 50 %
Photoinitiator 2-Methyl-4'-(methylthio)-2-morpholinopropiophenone	71868-10-5	< 10 %

\*Statement - This safety data sheet provides concentration range(s) instead of the actual concentration(s) considered trade secret(s).

<b>Section 4. First-Aid Measures</b>			
<b>Inhalation</b>	IF INHALED: If overexposure remove person to fresh air and keep comfortable for breathing. If not breathing, give artificial respiration or give oxygen by trained personnel. If symptoms persist, seek medical attention.		
<b>Ingestion</b>	IF SWALLOWED: Immediately call a doctor. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person.		
<b>Skin contact</b>	IF ON SKIN: Remove contaminated clothing and shoes without delay. Wash immediately with soap and water (20 - 30 minutes). If skin irritation occurs: Get medical attention. Wash contaminated clothing before reuse. Discard or decontaminate footwear before reuse.		
<b>Eye contact</b>	IF IN EYES, Rinse cautiously with water for several minutes (20 - 30 minutes). Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.		
<b>Most important symptoms and effects (acute or delayed)</b>	Harmful if swallowed, if inhaled. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation. May damage fertility or the unborn child.		
<b>Indication of immediate medical attention/special treatment</b>	In all cases, call a doctor. Do not forget this document.		
<b>Section 5. Fire-Fighting Measures</b>			
<b>Specific hazards of the hazardous product (hazardous combustion products)</b>			
Carbon monoxide and dioxide, nitrogen oxides, acrid fumes and smoke.			
<b>Suitable and unsuitable extinguishing media</b>			
In case of fire: Carbon dioxide, dry chemical, foam, water spray, water.			
<b>Special protective equipment and precautions for fire-fighters</b>			
During a fire, irritating/toxic fumes may be generated. Do not enter fire area without proper protection. Firefighters should wear proper protective equipment as required.			
<b>Section 6. Accidental Release Measures</b>			
<b>Personal precautions, protective equipment and emergency procedures</b>			
Evacuate non-emergency personnel. Isolate the area and prevent access. Control source of the leak. Ensure clean-up is conducted by trained personnel only. All persons dealing with clean-up should wear the appropriate protective equipment (See Section 8). Prevent the spill spread into drains, sewers, water supplies, or soil. Eliminate all ignition sources (no smoking, flares, sparks or flames) in immediate area. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Do not touch or walk through spilled material.			
<b>Methods and materials for containment and cleaning up</b>			
Avoid prolonged exposure. Stop leak if you can do it without risk. Spill should be contained with inert material and disposed into suitable retaining area. Do not touch or walk through spilled material. Small volumes of liquid may be contained or absorbed into an appropriate absorbent. Keep away from all watercourses. Do not flush down storm or sanitary sewer. Take precautionary measures against static discharges. Dispose of in accordance with local, provincial and federal regulations.			
<b>Section 7. Handling and Storage</b>			
<b>Precautions for safe handling</b>			
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Avoid breathing dust/fume/gas/mist/vapors/spray. Wash hands/nails/face/eyes thoroughly after handling. Do not eat, drink or smoke when using this product. Use only outdoors or in a well ventilated area. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear gloves/protective clothing/gloves/eye protection/face protection.			
<b>Conditions for safe storage, including any incompatibilities</b>			
Store in a cool, well-ventilated area. Keep container closed when not in use. Do not handle or store near open flames, heat or other sources of ignition. Store away from incompatible materials (Section 10). Inspect all incoming containers to make sure they are properly labeled and not damaged. Storage area should be clearly identified, clear of obstruction and accessible only to trained personnel. Inspect periodically for damage or leaks. Storage temperature: 15 - 27 °C.			
<b>Section 8. Exposure Controls/Personal Protection</b>			
<b>Control parameters (biological limit values or exposure limit values and source of those values)</b>			
Exposure limits: ACGIH – TLV-TWA Not available			
<b>Appropriate engineering controls</b>			
Use product in well-ventilated areas. Do not spray the product. Local exhaust ventilation system is recommended to maintain concentrations of contaminants below exposure limits. Supply emergency safety/quick-drench shower, eyewash station and washing facilities available in work area and near handling area. Where such systems are not effective, wear suitable personal protection equipment which performs satisfactorily and meets recognized standards.			
<b>Individual protection measures/personal protective equipment</b>			
Gloves: Neopren gloves or equivalent; Clothing: use suitable protective clothing to prevent any possibility of skin contact; Respiratory: Not required if working area is well ventilated. Use a NIOSH approved respirators if the exposure limits are unknown; Equipment: Safety glasses, chemical resistant. Special instructions for protection and hygiene: Wash hands/nails/face thoroughly after handling. Do not eat, drink or smoke when using this product. Practice good personal hygiene after using this material. Remove and wash contaminated work clothing before re-use. Educate and train employees in the safe use and handling of this product. Follow all label instructions.			
<b>Section 9. Physical and Chemical Properties</b>			
<b>Appearance, physical state/colour</b>	Liquid or paste (thixotropic)	<b>Vapour pressure</b>	Not available

<b>Odour</b>	Slightly acrylic odour	<b>Vapour density</b>	Not available
<b>Odour threshold</b>	Not available	<b>Relative density</b>	Not available
<b>pH</b>	Not available	<b>Solubility</b>	Insoluble
<b>Melting/freezing point</b>	Not available	<b>Partition coefficient - n-octanol/water</b>	Not available
<b>Initial boiling point/range</b>	Not available	<b>Auto-ignition temperature</b>	Not available
<b>Flash point</b>	> 100 °C (212°F)	<b>Decomposition temperature</b>	Not available
<b>Evaporation rate</b>	Not available	<b>Viscosity</b>	Not available
<b>Flammability (solids and gases)</b>	Not available	<b>VOC</b>	Not available
<b>Upper and lower flammability/explosive limits</b>	Not available	<b>Other</b>	None known
<b>Section 10. Stability and Reactivity</b>			
<b>Reactivity</b>			
Stable under normal conditions.			
<b>Chemical stability</b>			
Yes, Stable under the recommended storage and handling conditions prescribed.			
<b>Possibility of hazardous reactions</b>			
Non under normal conditions of storage and use.			
<b>Conditions to avoid (static discharge, shock or vibration)</b>			
Excess heat and sunlight.			
<b>Incompatible materials</b>			
Strong oxidizing agents, peroxides or other polymerisation initiators, strong acid or bases, metallic powders or pigments			
<b>Hazardous decomposition products</b>			
Carbon mono and dioxide, nitrogen oxides, other toxic fumes.			
<b>Section 11. Toxicological Information</b>			
<b>Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact)</b>			
Harmful if swallowed, if inhaled. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation. May damage fertility or the unborn child.			
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>			
No specific information available.			
<b>Delayed and immediate effects (chronic effects from short-term and long-term exposure)</b>			
Skin Sensitization – May cause allergic skin reaction. Respiratory Sensitization – May cause respiratory system irritation; Germ Cell Mutagenicity – Not available; Carcinogenicity – Not available; Reproductive Toxicity – Not available; Specific Target Organ Toxicity – Single Exposure – Not available; Specific Target Organ Toxicity – Repeated Exposure – Not available; Aspiration Hazard – May cause irritation to respiratory track, difficulty breathing; Health Hazards Not Otherwise Classified – No data available.			
<b>Numerical measures of toxicity (ATE; LD<sub>50</sub> &amp; LC<sub>50</sub>)</b>			
CAS 71868-10-5 LD <sub>50</sub> Oral – Rat –male and female- 1984 mg/kg; LD <sub>50</sub> Dermal – Rat –male and female >2000 mg/kg; LC <sub>50</sub> Inhalation No data available; Acrylic Oligomer: LD <sub>50</sub> Oral – Rat >2000 mg/kg; LD <sub>50</sub> Dermal – Rabbit >2000 mg/kg; LC <sub>50</sub> Inhalation – Rat > 5mg/L 4h; ATE not available in this document.			
<b>Section 12. Ecological Information</b>			
<b>Ecotoxicity (aquatic and terrestrial information)</b>			
<b>Fish toxicity</b> CAS: 71868-10-5:semi-static test LC50: 9 mg/L (Danino rerio(Zebra fish), 96h); Acrylic Oligomer LC50 > = 100 mg/l (Brachydanio rerio - 96h); LC50 28.5 mg/l (Oncorhynchus mykiss - 96h)			
<b>Invertebrate toxicity</b> CAS: 71868-10-5:semi-static test: EC50: 15.3 mg/L (Daphnia magna (water flea) 24h); Acrylic Oligomer EC50 > = 100 mg/l (48h, Water Flea (Daphnia magna)			
<b>Aquatic plant and Algae toxicity</b> CAS: 71868-10-5: Growth inhibition EC50: 1.6 mg/L (Desmodesmus subspicatus (Scenedesmus subspicatus) 72h); Acrylic Oligomer EC50 > 0.17 mg/L (Pseudokirchneriella subspicatus 96h); EC50 > 0.04 mg/L (Desmodesmus subspicatus 72h).			
<b>Toxicity to bacteria</b> CAS: 71868-10-5: Respiration inhibition EC50: >100 mg/L (Sludge Treatment 30 min).			
<b>Persistence and degradability</b> CAS: 71868-10-5: Result: 1% - Not readily biodegradable.			
<b>Bioaccumulative potential</b> No data available.			
<b>Mobility in soil</b> No data available			
<b>Other adverse effects</b> Harmful to aquatic life with long lasting effects.			
<b>Section 13. Disposal Considerations</b>			
<b>Information on safe handling for disposal/methods of disposal/contaminated packaging</b>			
Dispose of contents/container into safe container in accordance with local, regional or national regulations.			
<b>Section 14. Transport Information</b>			
<b>UN number; Proper shipping name; Class(es); Packing group (PG) of the TDG Regulations</b>			
No regulated			
<b>UN number; Proper shipping name; Class(es); Packing group (PG) of the IMDG (maritime)</b>			
No regulated			
<b>UN number; Proper shipping name; Class(es); Packing group (PG) of the IATA (air)</b>			
No regulated			

<b>Special precautions (transport/conveyance)</b>	None
<b>Environmental hazards (IMDG or other)</b>	None
<b>Bulk transport (usually more than 450 L in capacity)</b>	None.
<b>Section 15. Regulatory Information</b>	
<b>Safety/health Canadian regulations specifics</b>	This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR).
<b>Environmental Canadian regulations specifics</b>	Refer to Section 3 for ingredient(s) of the DSL
<b>Safety/health/environmental outside regulations specifics</b>	
United States OSHA information: This product is regulated according to OSHA (29 CFR).	
United States EPA (Environmental Protection Agency) information: 40 CFR Refer to the ingredients listed in Section 3 & Sections 12; 13 & 14.	
United States TCSA information: Refer to the ingredients listed in Section 3.	
California Proposition 65: This product does not contain an ingredient known to the State of California to cause cancer or other reproductive harm	
<b>Section 16. Other Information</b>	
<b>Date of the latest revision of the safety data sheet</b>	September 07, 2018 - version 01
<b>References</b>	Safety Data Sheets from manufacturer/supplier & from Sigma-Aldrich.com & Echa.eurpea.eu
<b>Abbreviations</b>	
ACGIH	American Conference of Governmental Industrial Hygienists
ATE	Acute toxicity estimate
CAS	Chemical Abstract Service
DSL	Domestic Substance List
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods Code
LC	Lethal concentration
LD	Lethal Dosage
NIOSH	National Institute for Occupational Safety and Health
NTP	National Toxicology Program (U.S.A.)
OSHA	Occupational Safety and Health Administration (U.S.A.)
PEL	Permissible Exposure Limit
STEL	Short-term Exposure Limit
TDG	Transport of dangerous goods in Canada
TLV	Threshold Limit Value
TSCA	Toxic Substances Control Act
TWA	Time Weighted Average
WHMIS	Workplace Hazardous Materials Information System
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