

SAFETY DATA SHEET (SDS)

| Section 1. Identification | | |
|---|-------------|--|
| Product identifier | UVCLEAR 075 | |
| Other means of identificati | on FCL-075 | |
| Recommended use and restrictions on use UV screen printing inks and varnishes | | |
| Initial supplier identifier Aria Inks. 101-1079, rue des Forges, Terrebonne, QC, J6Y 0J9 (Canada) Tél. (450) 966-9000 | | |
| Emergency telephone number/restriction on use Canada – CANUTEC Number 24 hours 613-996-6666 | | |
| Section 2. Hazard Identification | | |

Classification of hazardous product (name of the category or subcategory of the hazard class)

Acute toxicity, oral (Category 4)

Skin corrosion/irritation (Category 2)

Skin sensitisation (Category 1B)

Serious eye damage/eye irritation (Category 2A)

Specific target organ toxicity, single exposure; respiratory tract irritation (Category 3)

Reproductive toxicity (Category 2)

Hazardous to the aquatic environment acute hazard (Category 2)

Hazardous to the aquatic environment short/long term hazard (Category 3)

Information elements (symbols, signal words, hazard statements and precautionary statements of the category/subcategory)





Warning

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction

H319 Causes serious eye irritation

H335 May cause respiratory irritation

H361 May damage fertility or the unborn child

H401Toxic to aquatic life

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 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 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

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 - 60 % | | |
| Acrylated Monomer | | 10 - 20 % | | |
| Glycol Ether Acrylated Monomer | | 10 – 30 % | | |
| Photoinitiator | | | | |
| Diphenyl(2,4,6-trimethylbenzoyl)phosphine oxide) | 75980-60-8 | < 10 % | | |
| 2-Hydroxy-2-methyl-1-phenyl-propan-1-one | 7473-98-5 | < 15 % | | |
| *Statement - This safety data sheet provides concentration range(s) instead of the actual concentration(s) considered trade secret(s) | | | | |



| Inhalation IF INHALED: If overexposure remove person to fresh air and keep comfortable for breathing. If not breath respiration or give oxygen by trained personnel. If symptoms persist, seek medical attention. | Section 4. First-Aid Measures | | |
|---|---|--|--|
| respiration or give oxygen by trained personnel. If symptoms persist, seek medical attention. | ning, give artificial | | |
| | respiration or give oxygen by trained personnel. If symptoms persist, seek medical attention. | | |
| Ingestion IF SWALLOWED: Immediately call a doctor. Do NOT induce vomiting. Rinse mouth thoroughly with wa | IF SWALLOWED: Immediately call a doctor. Do NOT induce vomiting. Rinse mouth thoroughly with water. Never give | | |
| anything by mouth if the victim is rapidly losing consciousness, or is unconscious or convulsing. | anything by mouth if the victim is rapidly losing consciousness, or is unconscious or convulsing. | | |
| Skin contact IF ON SKIN: Remove contaminated clothing, wash immediately with soap and water (20 - 30 minutes). If | IF ON SKIN: Remove contaminated clothing, wash immediately with soap and water (20 - 30 minutes). If skin irritation | | |
| occurs: Get medical attention. Wash contaminated clothing before reuse. Discard or decontaminate footwe | occurs: Get medical attention. Wash contaminated clothing before reuse. Discard or decontaminate footwear before reuse. | | |
| Eye contact IF IN EYES, Rinse cautiously with water for several minutes (20 - 30 minutes). Remove contact lenses, i | f present and easy to | | |
| do. Continue rinsing. If eye irritation persists: Get medical attention. | | | |
| Most important symptoms and effects (acute or delayed) Harmful if swallowed. Causes skin irritation. May cause an alle | | | |
| reaction. Causes serious eye irritation. May cause respira | atory irritation. May | | |
| damage fertility or the unborn child. | | | |
| Indication of immediate medical attention/special treatment In all cases, call a doctor. Do not forget this document. | · | | |

Section 5. Fire-Fighting Measures

Specific hazards of the hazardous product (hazardous combustion products)

Carbon monoxide and dioxide, nitrogen oxides, acrid fumes and smoke.

Suitable and unsuitable extinguishing media

In case of fire: Use Carbon dioxide, dry chemical, foam, water spray, water.

Special protective equipment and precautions for fire-fighters

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.

Section 6. Accidental Release Measures

Personal precautions, protective equipment and emergency procedures

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.

Methods and materials for containment and cleaning up

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.

Section 7. Handling and Storage

Precautions for safe handling

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.

Conditions for safe storage, including any incompatibilities

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.

Section 8. Exposure Controls/Personal Protection

Control parameters (biological limit values or exposure limit values and source of those values)

Exposure limits: ACGIH – TLV-TWA Not available

Appropriate engineering controls

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.

Individual protection measures/personal protective equipment

Gloves: Neoprene 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.

| Section 9. Physical and Chemical Properties | | | |
|---|--------|-----------------|---------------|
| Appearance, physical state/colour | Liquid | Vapour pressure | Not available |



| Odour Slightly acrylic odour | Vapour density Not available | | |
|---|---|--|--|
| Odour threshold Not available | Relative density Not available | | |
| pH Not available | Solubility Insoluble | | |
| Melting/freezing point Not available | Partition coefficient - n-octanol/water Not available | | |
| Initial boiling point/range Not available | Auto-ignition temperature Not available | | |
| Flash point > 100 °C (212 °F) | Decomposition temperature Not available | | |
| Evaporation rate Not available | Viscosity Not available | | |
| Flammability (solids and gases) Not available | VOC Not available | | |
| Upper and lower flammability/explosive limits Not available | Other None known | | |

Section 10. Stability and Reactivity

Reactivity

Stable under normal conditions.

Chemical stability

Yes, Stable under the recommended storage and handling conditions prescribed.

Possibility of hazardous reactions

Non under normal conditions of storage and use.

Conditions to avoid (static discharge, shock or vibration)

Heat and sun light; the product must be stored in a dry and dark area; the temperature must not exceed 27° C.

Incompatible materials

Avoid contact with strong oxidizing agents, peroxides or other polymerisation initiators, strong acid or bases, metallic powders or pigments.

Hazardous decomposition products

Carbon mono and dioxide, nitrogen oxides, other toxic fumes.

Section 11. Toxicological Information

Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact)

Harmful if swallowed. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. May cause respiratory irritation. May damage fertility or the unborn child.

Symptoms related to the physical, chemical and toxicological characteristics

No specific information available.

$\label{lem:constraint} \textbf{Delayed and immediate effects (chronic effects from short-term and long-term exposure)}$

Skin Sensitization - May cause allergic skin reaction. Respiratory Sensitization - May cause severe 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 – No data available; Health Hazards Not Otherwise Classified – No data available.

Numerical measures of toxicity (ATE; LD₅₀ & LC₅₀)

Acrylic Oligomer LD_{50} Oral – No data; LD_{50} Dermal – Rat >5000 mg/kg; LC_{50} Inhalation –No data; CAS 75980-60-8 LD_{50} Oral – Rat 5000 mg/kg; LD_{50} Dermal – Rat 2000 mg/kg; LC_{50} Inhalation – Not data; CAS 7473-98-5 LD_{50} Oral – Rat 1694 mg/kg; LD_{50} Dermal – Rat 6929 mg/kg; LC_{50} Inhalation – Not data; ATE not available in this document.

Section 12. Ecological Information

Ecotoxicity (aquatic and terrestrial information)

Fish toxicity CAS: 75980-60-8: LC50: ~ 6.53 mg/L (Oryzias latipes, 48h); CAS: 7473-98-5: LC50: 160 mg/L (Leuciscus idus (Golden orfe), 48h)

Invertebrate toxicity Acrylic Oligomer EC50 1 – 10 mg/l (48h, Daphnia magna); CAS: 75980-60-8: EC50: 3.53 mg/L (48h, Daphnia magna); CAS: 7473-98-5:EC50 > 119 mg/L (48h, Daphnia magna).

Aquatic plant and Algae toxicity CAS: 7473-98-5: EC50: 1.95 mg/L (Desmodesmus subspicatus 72h)

Persistence and degradability CAS: 75980-60-8: Water degradation (%) 70-80: 14 days; CAS: 7473-98-5: Water degradation (%) 90-100: 28 days.

Bioaccumulative potential CAS: 75980-60-8: (BCF: ~22 – 32, Freshwater fish; CAS: 7473-98-5: Bioaccumulation is unlikely.

Mobility in soil No data available

Other adverse effects Harmful to aquatic life with long lasting effects.

Section 13. Disposal Considerations

Information on safe handling for disposal/methods of disposal/contaminated packaging

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

Section 14. Transport Information

UN number; Proper shipping name; Class(es); Packing group (PG) of the TDG Regulations

Non regulated

UN number; Proper shipping name; Class(es); Packing group (PG) of the IMDG (maritime)

Non regulated

UN number; Proper shipping name; Class(es); Packing group (PG) of the IATA (air)

Non regulated

Special precautions (transport/conveyance) None



| Environmental | hazards (IMDG or other) None | |
|---|---|--|
| Bulk transport (usually more than 450 L in capacity) None | | |
| Section 15. Regulatory Information | | |
| Safety/health C | anadian regulations specifics This product has been classified in accordance with the hazard criteria of the Hazardous Products | |
| Regulations (HPR). | | |
| Environmental | Canadian regulations specifics Refer to Section 3 for ingredient(s) of the DSL | |
| | nvironmental outside regulations specifics | |
| United States OS | SHA information: This product is regulated according to OSHA (29 CFR). | |
| United States EF | PA (Environmental Protection Agency) information: 40 CFR Refer to the ingredients listed in Section 3 & Sections 12; 13 & 14. | |
| | CSA information: Refer to the ingredients listed in Section 3. | |
| California Propo | osition 65: This product does not contain an ingredient known to the State of California to cause cancer or other reproductive harm | |
| | Section 16. Other Information | |
| Date of the lates | st revision of the safety data sheet September 07, 2018 - version 01 | |
| References | Safety Data Sheets from manufacturer/supplier & from Sigma-Aldrich.com & Echa.eurpea.eu | |
| Abbreviations | | |
| 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 | A Toxic Substances Control Act | |
| TWA | A Time Weighted Average | |
| WHMIS | Workplace Hazardous Materials Information System | |
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