Safety Data Sheet

Tissue Marking Dye

Section 1 – Product and Company Identification

Product Identifiers

Name	Tissue Marking Dye
Number	0723-2 thru -10, 0725-2 thru -10, 0726-2 thru –10, 0727-2 thru –10, 0728–2 thru –10, MD1002 thru MD1007, Colored Component/Dye in Following Kits: MD2000, MD3000, MK0030, MK0120, 01000, 02000, 03000, 05000, 04000, 06000Category Paraffin
Recommended Use	For in Vitro Diagnostic Use
Supplier Details	Cancer Diagnostics, Inc 4300 Emperor Blvd., Durham, NC 27703 - 877-846-5393 - www.cancerdiagnostics.com
Emergency Telephone	**800-424-9300 (CHEMTREK) 703-527-3887 Poison Control: 1-800-222-1222**
Date Prepared/Revised	September 10, 2015

Section 2 – Hazards Identification

Classification of the substance or mixture.

Physical Hazards	Not Classified
Health Hazards	Eye Damage / Irritation (Category 2A), Causes serious eye irritation.
Environmental Hazards	Not Classified

GHS label elements and precautionary statements.

Pictogram	Exclamation Mark
Signal Word	**WARNING**
Precautions	Wash skin thoroughly after handling. Wear eye protection/ face protection.
Response	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/ attention.

Hazards not otherwise classified or not covered by GHS.

HMIS Rating: Health hazard: 2 Chronic Health Hazard: Flammability: 0 Physical Hazard 0
NFPA Rating: Health hazard: 2 Fire Hazard: 0 Reactivity Hazard: 0

Supplemental Information

See Section 16 for alphanumeric H-Statements and P-Statements.

You are encouraged and expected you to read and understand the entire SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

Section 3 – Composition/Information on Ingredients

Substances	**CAS No.**	**% Wt.**
Isopropyl alcohol	67-63-0 200-661-7	<4
Ammonia	7664-41-7	<1

This composition consists of a combination of materials of which the ones contributing to classified hazards are reported above. The above chemistries are provided for industrial hygiene and environmental purposes and are not intended to represent product specifications. This information has been compiled from data believed to be reliable.

Section 4 – First Aid Measures

Description of first aid measures

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

In case of skin contact: Wash off with soap and plenty of water. Consult a physician.

If inhaled: If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

Most important symptoms and effects, both acute and delayed: See Sections 2 and 11.

Indication of any immediate medical attention and special treatment needed: No data available.

Section 5 – Firefighting Measures

Extinguishing Media
Suitable Extinguishing Media: Product will not burn. Use media appropriate of surrounding fire. Use dry chemical, CO2, water spray (FOG) or foam.
Unsuitable Extinguishing Media: Avoid solid water stream as it may scatter and spread fire.
Special hazards arising from the substance or mixture: Use water spray to cool fire exposed container surfaces and to protect personnel. Thermal decomposition can produce carbon monoxide (highly toxic) and carbon dioxide (an asphyxiant at sufficient concentrations).
Advice for firefighters: As in any fire, fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. (MSHA/NIOSH approved or equivalent).
Further information: If employees are expected to fight fires, they must be trained and equipped as stated in the OSHA Fire Brigades Standard (29 CFR 1910.156).

Section 6 – Accidental Release Measures

Personal precautions, protective equipment and emergency procedures: Use appropriate safety equipment. Keep unnecessary and unprotected personnel from entering the area. Keep upwind of spill. Ventilate area of leak or spill. No smoking in area. For large spills, warn public of downwind explosion hazard.
Environmental precautions: Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.
Methods and materials for containment and cleaning up: Contain spilled material if possible. Collect in suitable and properly labeled containers.
Reference to other sections-resources
For additional information, refer to Section 8, Exposure Controls and Personal Protection, Section 7, Handling, Section 12, Ecological Information and Section 13, Disposal Considerations. If employees are required to clean-up spills, they must be properly trained and equipped. The OSHA Hazardous Waste Operations and Emergency Response Standard (29 CFR 1910.120) may apply.

Section 7 – Handling and Storage

Precautions for safe handling
Avoid contact with skin and eyes. Avoid inhalation of vapor or mist. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge. For precautions see section 2.
Conditions for safe storage, including any incompatibilities
Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Specific end use
See Section 1.

Section 8 – Exposure Control and Personal Protection

Control parameters
Exposure limits are for air levels only. Skin contact can cause over exposure even with the following limits are met.
Components with workplace control parameters
Isopropanol (67-63-0): OSHA: The legal airborne permissible exposure limit (PEL) is 400 ppm averaged over an 8-hour work shift. NIOSH: The recommended airborne exposure limit (REL) is 400 ppm averaged over a 10-hour work shift and 500 ppm, not to be exceeded during any 15-minute work period. ACGIH: The threshold limit value (TLV) is 200 ppm averaged over an 8-hour work shift and 400 ppm as a STEL.
Ammonia (7664-41-7): OSHA: The legal airborne permissible exposure limit (PEL) is 50 ppm averaged over an 8-hour work shift. NIOSH: The recommended airborne exposure limit (REL) is 25 ppm averaged over a 10-hour work shift and 35 ppm, not to be exceeded during any 15-minute work period. ACGIH: The threshold limit value (TLV) is 25 ppm averaged over an 8-hour work shift and 35 ppm as a STEL (short-term exposure limit).
Exposure controls
Appropriate engineering controls: Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.
Personal protective equipment
Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good practices. Wash and dry hands.
Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).
General: Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.
Control of environmental exposure
Do not let product enter drains. Discharge into the environment must be avoided.

Section 9 – Physical and Chemical Properties

Information on basic physical and chemical properties

Physical State
Form: Liquid
Color: Various Colors
Odor: Faint Ammonia
Odor Threshold: Not Determined
pH: 8.5-10.0
Freezing Point/Melting Point: Not Determined
Initial Boiling Point/Range: Not Determined
Flash Point: >200°F / > 93.3°C
Evaporation Rate (Water=1): Not Determined
Flammability: Not Determined
Lower Flammability or Explosive Limit: Not Determined
Upper Flammability or Explosive Limit: Not Determined
Vapor Pressure: Not Determined
Vapor Density: Not Determined
Specific Gravity (Water=1): 1.02-1.14
Solubility (Water): Not Determined
Partition Coefficient: Not Determined
Auto Ignition Temp: Not Determined
Decomposition Temp: Not Determined
Viscosity: Not Applicable

Other Safety Info
Volatility (% wt.): Not Determined
Oxidizing Properties: None

Physical Data is typical values based on material tested, but may vary based on composition. Values should not be accepted as guaranteed for every lot or as specifications for this product.

Section 10 – Stability and Reactivity

Reactivity: Not reactive under normal conditions.
Chemical stability: Stable under recommended storage conditions.
Possibility of hazardous reactions: When in contact with incompatible materials.
Conditions to avoid: Contact with incompatible materials and temperature extremes.
Incompatible materials: Strong oxidizers.
Hazardous decomposition products: Does not decompose under normal conditions.
Other decomposition products: During fire, thermal decomposition can produce carbon monoxide (highly toxic) and carbon dioxide (an asphyxiant at sufficient concentrations).

Section 11 – Toxicological Information

Information on Toxicological Effects

Component toxicity

Isopropanol (67-63-0): Acute toxicity LD50 Oral - Rat - 5,045 mg/kg Remarks: Behavioral: Altered sleep time (including change in righting reflex). Behavioral: Somnolence (general depressed activity). LC50 Inhalation - Rat - 8 h - 16000 ppm LD50 Dermal - Rabbit - 12,800 mg/kg - Skin – Rabbit Result: Mild skin irritation Serious eye damage/eye irritation Eyes – Rabbit Result: Eye irritation - 24 h - Specific target organ toxicity - single exposure Inhalation, Oral - May cause drowsiness or dizziness. Additional Information: Central nervous system depression, prolonged or repeated exposure can cause: Nausea, Headache, Vomiting, narcosis, Drowsiness, Overexposure may cause mild, reversible liver effects. Aspiration may lead to:, Lung edema, Pneumonia.
Ammonia (7664-41-7): Acute toxicity LC50 Inhalation - Rat - 4 h - 2000 ppm

Mixture toxicity

Skin corrosion/irritation – Inhalation - Serious eye damage/eye irritation - Respiratory or skin sensitization - Germ cell mutagenicity - Reproductive toxicity - Specific target organ toxicity - single exposure - Specific target organ toxicity - repeated exposure - Aspiration hazard: All no data available.
Carcinogenicity: Product not classified as a carcinogen by the National Toxicology Program (NTP), the International Agency for Research on Cancer (IARC), or the Occupational Safety and Health Administration (OSHA).
Additional Information: None known.

Section 12 – Ecological Information

Ecotoxicity

Component ecotoxicity

Isopropanol (67-63-0): Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 9,640.00 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates EC50 - Daphnia magna (Water flea) - 5,102.00 mg/l - 24 h Immobilization EC50 - Daphnia magna (Water flea) - 6,851 mg/l - 24 h Toxicity to algae EC50 - Desmodesmus subspicatus (green algae) - > 2,000.00 mg/l - 72 h EC50 - Algae - > 1,000.00 mg/l - 24 h.

Ammonia (7664-41-7): Toxicity to daphnia and other aquatic invertebrates LC50 - Daphnia magna (Water flea) - 25.4 mg/l - 48 h - Other adverse effects: Very toxic to aquatic life with long lasting effects.

Mixture ecotoxicity

Toxicity to Fish**:** Not Determined

Persistence and Biodegradability: Not Determined

Bioaccumulative Potential: Not Determined

Mobility in Soil: Not Determined

Other adverse effects: None known.

Section 13 – Disposal Consideration

Waste treatment methods

Product: Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging: Dispose of as unused product.

Section 14 – Transport Information

DOT: Not Regulated – **IATA:** Not Regulated – **IMDG:** Not Regulated

Section 15 – Regulatory Information

Federal

TSCA: Components of this product are listed on the TSCA Inventory.

DSL: This product, or its components, are listed on or are exempt from the Canadian Domestic Substances List (DSL).

CERCLA: Product is not found in "List of Hazardous Substances and Reportable Quantities" (40 CFR 302.4

SARA TITLE III: (Superfund Amendments and Reauthorization Act)

302 Components: Ammonia (7664-41-7) subject to reporting levels established by Section 302.

313 Components: 2-Propanol (67-63-0) and Ammonia (7664-41-7) subject to reporting levels established by Section

311/312 Hazards: Acute, Health

States

State Right to Know Components: MA, PA and NJ: 2-Propanol (67-63-0) and Ammonia (7664-41-7)

California Prop. 65 Components: This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

Canada

WHMIS: This product is not a controlled product under WHMIS.

Section 16 – Other Information

Alphanumeric H-Statements and P-Statements.

H319 Causes serious eye irritation.

P264 Wash skin thoroughly after handling.

P280 Wear eye protection/ face protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

Disclaimer: The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product.