

SECTION 1 Identification

1.1. Product identifier

Product form : Mixture
Product name : Tissue Marking Dye, Royal Blue
Product code : 7563-02, 7571

1.2. Other means of identification

Synonyms : Tissue Marking Dye, Royal Blue

1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : For laboratory and manufacturing use only, For professional use only
Restrictions on use : Not for food, drug or household use

1.4. Supplier's details

Ethos Biosciences, Inc.
2070 Center Square Road
Logan Township, New Jersey 08085
United States
T +1-856-224-0900; +1-800-441-0366 Technical Service; Monday-Friday: 8:00 AM-5:00 PM, Eastern US Time
www.ethosbiosciences.com

1.5. Emergency phone number

Emergency number : For Hazardous Materials or Dangerous Goods Incident Spill, Leak, Fire, Exposure, or Accident
Call CHEMTREC Day or Night: 1-800-424-9300 (Toll Free, USA) CCN 1880

SECTION 2 Hazard Identification

2.1. Classification of the substance or mixture

GHS US classification

Acute toxicity (inhalation:dust,mist), Category 3	H331	Toxic if inhaled.
Skin corrosion/irritation, Category 2	H315	Causes skin irritation.
Serious eye damage/eye irritation, Category 1	H318	Causes serious eye damage.
Skin sensitization, Category 1	H317	May cause an allergic skin reaction.
Germ cell mutagenicity, Category 2	H341	Suspected of causing genetic defects.
Carcinogenicity, Category 1A	H350	May cause cancer.

Full text of H statements : see section 16

2.2. Label elements

GHS US labeling

Hazard pictograms (GHS US) :



Signal word (GHS US) : Danger
Hazard statements (GHS US) :
H315 - Causes skin irritation
H317 - May cause an allergic skin reaction
H318 - Causes serious eye damage
H331 - Toxic if inhaled

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Precautionary statements (GHS US)

- H341 - Suspected of causing genetic defects.
- H350 - May cause cancer.
- 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, forearms and face thoroughly after handling.
- P271 - Use only outdoors or in a well-ventilated area.
- P272 - Contaminated work clothing must not be allowed out of the workplace.
- P280 - Wear protective clothing, eye and face protection, protective gloves.
- P302+P352 - If on skin: Wash with plenty of water.
- P304+P340 - If inhaled: Remove person to fresh air and keep comfortable for breathing.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P308+P313 - If exposed or concerned: Get medical advice/attention.
- P310 - Immediately call a poison center or doctor.
- P311 - Call a poison center or doctor.
- P321 - Specific treatment (see supplemental first aid instruction on this label).
- P333+P313 - If skin irritation or rash occurs: Get medical advice or attention.
- P362+P364 - Take off contaminated clothing and wash it before reuse.
- P403+P233 - Store in a well-ventilated place. Keep container tightly closed.
- P405 - Store locked up.
- P501 - Dispose of contents and/or container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulations.

2.3. Hazards associated with known or reasonably anticipated uses

No additional information available

2.4. Hazards not otherwise classified

No additional information available

2.5. Unknown acute toxicity

No additional information available

SECTION 3 Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	Conc.	GHS US classification
water	CAS-No.: 7732-18-5	> 78	Not classified
ammonium hydroxide	CAS-No.: 1336-21-6	< 5	Skin Corr. 1, H314 Eye Dam. 1, H318

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Name	Product identifier	Conc.	GHS US classification
formaldehyde	CAS-No.: 50-00-0	< 5	Flam. Gas 1, H220 Press. Gas (Liq.), H280 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Dermal), H311 Acute Tox. 2 (Inhalation), H330 Acute Tox. 2 (Inhalation:gas), H330 Acute Tox. 2 (Inhalation:dust,mist), H330 Eye Dam. 1, H318 Skin Sens. 1, H317 Muta. 2, H341 Carc. 1A, H350 STOT SE 3, H335

Full text of hazard classes and H-statements : see section 16

SECTION 4 First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general	: IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Call a doctor.
First-aid measures after skin contact	: Wash skin with plenty of water. Take off contaminated clothing. If skin irritation or rash occurs: Get medical advice/attention.
First-aid measures after eye contact	: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician immediately.
First-aid measures after ingestion	: Call a poison center/doctor/physician if you feel unwell.
Personal protection for first-aid responders.	: First-aiders should consider self-protection and use the recommended personal protective equipment (see section 8).

4.2. Most important symptoms/effects, acute and delayed

Symptoms/effects after inhalation	: Toxic if inhaled.
Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: None under normal conditions.

4.3. Indication of immediate medical attention and special treatment needed, if necessary

Other medical advice or treatment	: Treat symptomatically.
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SECTION 5: Fire-fighting measures

5.1. Suitable (and unsuitable) extinguishing media

Suitable extinguishing media	: Water spray. Dry powder. Foam. Carbon dioxide.
Unsuitable extinguishing media	: Do not use a heavy water stream.

5.2. Specific hazards arising from the chemical

Fire hazard	: No fire hazard.
Explosion hazard	: No direct explosion hazard.
Hazardous decomposition products in case of fire	: Toxic fumes may be released.

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5.3. Special protective equipment and precautions for fire-fighters

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|--------------------------------|---|
| Firefighting instructions | : Fight fire from safe distance and protected location. Do not enter fire area without proper protective equipment, including respiratory protection. |
| Protection during firefighting | : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing. |

SECTION 6 Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

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|------------------|---|
| General measures | : Stop leak if safe to do so. Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage. |
|------------------|---|

For non-emergency personnel

- | | |
|----------------------|--|
| Protective equipment | : Wear recommended personal protective equipment. |
| Emergency procedures | : Only qualified personnel equipped with suitable protective equipment may intervene. Avoid breathing dust/fume/gas/mist/vapors/spray. |

For emergency responders

- | | |
|---------------------------|---|
| Protective equipment | : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection". |
| Emergency procedures | : Evacuate unnecessary personnel. Stop leak if safe to do so. |
| Environmental precautions | : Avoid release to the environment. Notify authorities if product enters sewers or public waters. |

6.2. Methods and materials for containment and cleaning up

- | | |
|-------------------------|---|
| For containment | : Absorb spilled material with sand or earth. Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Stop leak, if possible without risk. |
| Methods for cleaning up | : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters. |
| Other information | : Dispose of materials or solid residues at an authorized site. |
- For further information refer to section 13.

SECTION 7 Handling and storage

7.1. Precautions for safe handling

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|-----------------------------------|--|
| Precautions for safe handling | : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Avoid breathing dust/fume/gas/mist/vapors/spray. Avoid contact with skin and eyes. |
| Hygiene measures | : Separate working clothes from town clothes. Launder separately. Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands after handling the product. |
| Additional hazards when processed | : Not expected to present a significant hazard under anticipated conditions of normal use. |

7.2. Conditions for safe storage, including incompatibilities

- | | |
|---------------------|---|
| Technical measures | : Keep in a cool, well-ventilated place away from heat. |
| Storage conditions | : Store locked up. Store in a well-ventilated place. Keep container tightly closed. |
| Packaging materials | : Always store product in container of same material as original container. |

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SECTION 8 Exposure controls/personal protection

8.1. Control parameters

formaldehyde (50-00-0)

USA - ACGIH® - Threshold Limit Values

ACGIH® TLV® TWA	0.1 ppm
ACGIH® TLV® STEL	0.3 ppm

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Avoid release to the environment.

8.3. Individual protection measures, such as personal protective equipment

Personal protective equipment:

Wear recommended personal protective equipment.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

[In case of inadequate ventilation] wear respiratory protection.

Personal protective equipment symbol(s):



SECTION 9 Physical and chemical properties

9.1. Basic physical and chemical properties

Physical state	: Liquid
Color	: No data available
Odor	: No data available
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Flammability (solid, gas)	: Not applicable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available

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Solubility	: Water: Solubility in water of component(s) of the mixture : • ammonium hydroxide: • formaldehyde: 40 g/100ml
Partition coefficient n-octanol/water (Log Pow)	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Viscosity, kinematic	: No data available
Explosion limits	: No data available
Particle characteristics	: No data available

ammonium hydroxide

Flash point	Not applicable
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formaldehyde

Boiling point	-21 – -19 °C (1013 hPa)
Flash point	Not applicable (gas)
Auto-ignition temperature	395 °C (Aqueous solution, 1013.25 hPa, DIN 51794: Self-ignition temperature, T2)
Vapor pressure	4378 – 4420 hPa (20 °C)

9.2. Data relevant with regard to physical hazard classes (supplemental)

No additional information available

SECTION 10 Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11 Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Inhalation:dust,mist: Toxic if inhaled.

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Tissue Marking Dye, Royal Blue	
ATE US (dust, mist)	1 mg/l/4h
formaldehyde (50-00-0)	
LD50 oral rat	800 mg/kg body weight (Equivalent or similar to OECD 401, Rat, Male, Experimental value, 2% aqueous solution, Oral, 14 day(s))
LC50 Inhalation - Rat [ppm]	490 ppm (Equivalent or similar to OECD 403, 4 h, Rat, Male, Experimental value, Inhalation (gases))
ATE US (oral)	800 mg/kg body weight
ATE US (dermal)	300 mg/kg body weight
ATE US (gases)	490 ppmV/4h
ATE US (vapors)	0.5 mg/l/4h
ATE US (dust, mist)	0.05 mg/l/4h
Skin corrosion/irritation	: Causes skin irritation.
ammonium hydroxide (1336-21-6)	
pH	11.7 (3.5 %)
formaldehyde (50-00-0)	
pH	2.8 – 4 (37 %)
Serious eye damage/irritation	: Causes serious eye damage.
ammonium hydroxide (1336-21-6)	
pH	11.7 (3.5 %)
formaldehyde (50-00-0)	
pH	2.8 – 4 (37 %)
Respiratory or skin sensitization	: May cause an allergic skin reaction.
Germ cell mutagenicity	: Suspected of causing genetic defects.
Carcinogenicity	: May cause cancer.
formaldehyde (50-00-0)	
IARC group	1 - Carcinogenic to humans
National Toxicity Program (NTP) Status	Known Human Carcinogens
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
formaldehyde (50-00-0)	
STOT-single exposure	May cause respiratory irritation.
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
formaldehyde (50-00-0)	
Viscosity, kinematic	No data available in the literature
Symptoms/effects after inhalation	: Toxic if inhaled.
Symptoms/effects after skin contact	: Irritation. May cause an allergic skin reaction.
Symptoms/effects after eye contact	: Serious damage to eyes.
Symptoms/effects after ingestion	: None under normal conditions.

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SECTION 12 Ecological information

12.1. Ecotoxicity

Ecology - general	: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute)	: Not classified
Hazardous to the aquatic environment, long-term (chronic)	: Not classified

formaldehyde (50-00-0)	
LC50 - Fish [1]	6.7 mg/l (96 h, Morone saxatilis, Static system, Salt water, Experimental value, Lethal)
EC50 - Crustacea [1]	5.8 mg/l (OECD 202: Daphnia sp. Acute Immobilisation Test, 48 h, Daphnia pulex, Static system, Fresh water, Experimental value, Locomotor effect)
ErC50 algae	4.89 – 6.61 mg/l (OECD 201: Alga, Growth Inhibition Test, 72 h, Desmodesmus subspicatus, Static system, Fresh water, Experimental value, Nominal concentration)

12.2. Persistence and degradability

Tissue Marking Dye, Royal Blue	
Persistence and degradability	Not rapidly degradable
ammonium hydroxide (1336-21-6)	
Persistence and degradability	Biodegradable in the soil, Readily biodegradable in water.
formaldehyde (50-00-0)	
Persistence and degradability	Readily biodegradable in water.
Biochemical oxygen demand (BOD)	0.64 g O ₂ /g substance
Chemical oxygen demand (COD)	1.06 g O ₂ /g substance
ThOD	1.068 g O ₂ /g substance
water (7732-18-5)	
Persistence and degradability	Not rapidly degradable

12.3. Bioaccumulative potential

ammonium hydroxide (1336-21-6)	
Bioaccumulative potential	Does not contain bioaccumulative component(s).
formaldehyde (50-00-0)	
BCF - Fish [1]	< 1 (1 h, Flow-through system, Salt water, Weight of evidence)
Partition coefficient n-octanol/water (Log Pow)	0.35 (Calculated, KOWWIN, 25 °C)
Bioaccumulative potential	Low potential for bioaccumulation (BCF < 500).

12.4. Mobility in soil

ammonium hydroxide (1336-21-6)	
Ecology - soil	No (test)data on mobility of the component(s) available.

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formaldehyde (50-00-0)

Surface tension	73 mN/m (20 °C, Aqueous solution, 7.5 g/l)
Ecology - soil	Not applicable (gas). Toxic to flora.

12.5. Other adverse effects

Ozone	: Not classified
Fluorinated greenhouse gases	: No

SECTION 13 Disposal considerations

Regional waste regulation	: Disposal must be done according to official regulations.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.
Ecological waste information	: The waste of the product should be considered as hazardous as the product itself, with the likelihood of impacting the environment in the same way. Consider the handling and disposal of the waste as defined by the product itself.

SECTION 14 Transport information

In accordance with DOT / TDG / IMDG / IATA

14.1. UN number

Not regulated for transport

14.2. UN Proper Shipping Name

Proper Shipping Name (DOT)	: Not regulated
Proper Shipping Name (TDG)	: Not regulated
Proper Shipping Name (IMDG)	: Not regulated
Proper Shipping Name (IATA)	: Not regulated

14.3. Transport hazard class(es)

DOT	
Transport hazard class(es) (DOT)	: Not regulated

TDG	
Transport hazard class(es) (TDG)	: Not regulated

IMDG	
Transport hazard class(es) (IMDG)	: Not regulated

IATA	
Transport hazard class(es) (IATA)	: Not regulated

14.4. Packing group

Packing group (DOT)	: Not regulated
Packing group (TDG)	: Not regulated
Packing group (IMDG)	: Not regulated
Packing group (IATA)	: Not regulated

14.5. Environmental hazards

Other information	: No supplementary information available.
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14.6. Transport in bulk

Not applicable

14.7. Special precautions for user

DOT

Not regulated

TDG

Not regulated

IMDG

Not regulated

IATA

Not regulated

SECTION 15 Regulatory information

15.1. Federal regulations

All components of this product are present and listed as Active on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory

Chemical(s) subject to the reporting requirements of Section 313 or Title III of the Superfund Amendments and Reauthorization Act (SARA) of 1986 and 40 CFR Part 372.		
ammonium hydroxide, 25%≤conc<35%, aqueous solutions	CAS-No. 1336-21-6	< 5%
formaldehyde	CAS-No. 50-00-0	< 5%

ammonium hydroxide (1336-21-6)

CERCLA RQ	1000 lb
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formaldehyde (50-00-0)

Listed on EPA Hazardous Air Pollutant (HAPS)	
CERCLA RQ	100 lb
RQ (Reportable quantity, section 304 of EPA's List of Lists)	100 lb
SARA Section 302 Threshold Planning Quantity (TPQ)	500 lb

15.2. International regulations

CANADA

ammonium hydroxide (1336-21-6)

Listed on the Canadian DSL (Domestic Substances List)

formaldehyde (50-00-0)

Listed on the Canadian DSL (Domestic Substances List)

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water (7732-18-5)
Listed on the Canadian DSL (Domestic Substances List)

EU-Regulations

No additional information available

National regulations

ammonium hydroxide (1336-21-6)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

formaldehyde (50-00-0)
Listed on IARC (International Agency for Research on Cancer) Listed as carcinogen on NTP (National Toxicology Program) Listed on INSQ (Mexican National Inventory of Chemical Substances)

water (7732-18-5)
Listed on INSQ (Mexican National Inventory of Chemical Substances)

15.3. State regulations

 **WARNING:**

This product can expose you to Formaldehyde (gas), which is known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Component	State or local regulations
ammonium hydroxide(1336-21-6)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List
formaldehyde(50-00-0)	U.S. - Massachusetts - Right To Know List; U.S. - New Jersey - Right to Know Hazardous Substance List; U.S. - Pennsylvania - RTK (Right to Know) List

SECTION 16 Other information

according to 29 CFR § 1910.1200, Hazard Communication Standard (HCS 2024)

Revision date : 8/19/2026
Issue date : 3/27/2024

Full text of hazard classes and H-statements	
H220	Extremely flammable gas
H280	Contains gas under pressure; may explode if heated
H302	Harmful if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H315	Causes skin irritation
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H330	Fatal if inhaled

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Full text of hazard classes and H-statements	
H331	Toxic if inhaled
H335	May cause respiratory irritation
H341	Suspected of causing genetic defects.
H350	May cause cancer.

Safety Data Sheet (SDS), USA

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