

Section 2. Hazards identification

Response	: Cyanine-3-dUTP Cyanine-5-dUTP	Not applicable. Not applicable.
Storage	: Cyanine-3-dUTP Cyanine-5-dUTP	Not applicable. Not applicable.
Disposal	: Cyanine-3-dUTP Cyanine-5-dUTP	Not applicable. Not applicable.
Supplemental label elements	: <input checked="" type="checkbox"/> Cyanine-3-dUTP Cyanine-5-dUTP	None known. None known.
2.3 Other hazards		
Hazards not otherwise classified	: Cyanine-3-dUTP Cyanine-5-dUTP	None known. None known.

Section 3. Composition/information on ingredients

Substance/mixture	: Cyanine-3-dUTP Cyanine-5-dUTP	Mixture Mixture
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Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

4.1 Description of necessary first aid measures

Eye contact	: Cyanine-3-dUTP Cyanine-5-dUTP	Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
Inhalation	: Cyanine-3-dUTP Cyanine-5-dUTP	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur.
Skin contact	: Cyanine-3-dUTP Cyanine-5-dUTP	Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur.
Ingestion	: Cyanine-3-dUTP Cyanine-5-dUTP	Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur. Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small

Section 4. First aid measures

quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

4.2 Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contact	: Cyanine-3-dUTP Cyanine-5-dUTP	No known significant effects or critical hazards. No known significant effects or critical hazards.
Inhalation	: Cyanine-3-dUTP Cyanine-5-dUTP	No known significant effects or critical hazards. No known significant effects or critical hazards.
Skin contact	: Cyanine-3-dUTP Cyanine-5-dUTP	No known significant effects or critical hazards. No known significant effects or critical hazards.
Ingestion	: Cyanine-3-dUTP Cyanine-5-dUTP	No known significant effects or critical hazards. No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact	: Cyanine-3-dUTP Cyanine-5-dUTP	No specific data. No specific data.
Inhalation	: Cyanine-3-dUTP Cyanine-5-dUTP	No specific data. No specific data.
Skin contact	: Cyanine-3-dUTP Cyanine-5-dUTP	No specific data. No specific data.
Ingestion	: Cyanine-3-dUTP Cyanine-5-dUTP	No specific data. No specific data.

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

Notes to physician	: Cyanine-3-dUTP Cyanine-5-dUTP	Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
Specific treatments	: Cyanine-3-dUTP Cyanine-5-dUTP	No specific treatment. No specific treatment.
Protection of first-aiders	: Cyanine-3-dUTP Cyanine-5-dUTP	No action shall be taken involving any personal risk or without suitable training. No action shall be taken involving any personal risk or without suitable training.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	: Cyanine-3-dUTP Cyanine-5-dUTP	Use an extinguishing agent suitable for the surrounding fire. Use an extinguishing agent suitable for the surrounding fire.
Unsuitable extinguishing media	: Cyanine-3-dUTP Cyanine-5-dUTP	None known. None known.

5.2 Special hazards arising from the substance or mixture

Section 5. Fire-fighting measures

Specific hazards arising from the chemical	: Cyanine-3-dUTP Cyanine-5-dUTP	In a fire or if heated, a pressure increase will occur and the container may burst. In a fire or if heated, a pressure increase will occur and the container may burst.
Hazardous thermal decomposition products	: Cyanine-3-dUTP Cyanine-5-dUTP	No specific data. No specific data.
 5.3 Advice for firefighters		
Special protective actions for fire-fighters	: Cyanine-3-dUTP Cyanine-5-dUTP	Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
Special protective equipment for fire-fighters	: Cyanine-3-dUTP Cyanine-5-dUTP	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel	: Cyanine-3-dUTP Cyanine-5-dUTP	No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment. No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.
For emergency responders	: Cyanine-3-dUTP Cyanine-5-dUTP	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel". If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

6.2 Environmental precautions	: Cyanine-3-dUTP Cyanine-5-dUTP	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has
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Section 6. Accidental release measures

caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up : Cyanine-3-dUTP

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Cyanine-5-dUTP

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 7. Handling and storage

7.1 Precautions for safe handling

Protective measures : Cyanine-3-dUTP

Put on appropriate personal protective equipment (see Section 8).

Cyanine-5-dUTP

Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene : Cyanine-3-dUTP

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Cyanine-5-dUTP

7.2 Conditions for safe storage, including any incompatibilities : Cyanine-3-dUTP

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Cyanine-5-dUTP

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright

Section 7. Handling and storage

to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

7.3 Specific end use(s)

Recommendations	: Cyanine-3-dUTP Cyanine-5-dUTP	Industrial applications, Professional applications. Industrial applications, Professional applications.
Industrial sector specific solutions	: Cyanine-3-dUTP Cyanine-5-dUTP	Not applicable. Not applicable.

Section 8. Exposure controls/personal protection

8.1 Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
None.	

8.2 Exposure controls

- Appropriate engineering controls** : Good general ventilation should be sufficient to control worker exposure to airborne contaminants.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance

Physical state	: Cyanine-3-dUTP Cyanine-5-dUTP	Liquid. Liquid.
Color	: Cyanine-3-dUTP Cyanine-5-dUTP	Not available. Not available.
Odor	: Cyanine-3-dUTP Cyanine-5-dUTP	Not available. Not available.
Odor threshold	: Cyanine-3-dUTP Cyanine-5-dUTP	Not available. Not available.
pH	: Cyanine-3-dUTP Cyanine-5-dUTP	Not available. Not available.
Melting point	: Cyanine-3-dUTP Cyanine-5-dUTP	0°C (32°F) 0°C (32°F)
Boiling point	: Cyanine-3-dUTP Cyanine-5-dUTP	100°C (212°F) 100°C (212°F)
Flash point	: Cyanine-3-dUTP Cyanine-5-dUTP	Not available. Not available.
Evaporation rate	: Cyanine-3-dUTP Cyanine-5-dUTP	Not available. Not available.
Flammability (solid, gas)	: Cyanine-3-dUTP Cyanine-5-dUTP	Not applicable. Not applicable.
Lower and upper explosive (flammable) limits	: Cyanine-3-dUTP Cyanine-5-dUTP	Not available. Not available.
Vapor pressure	: Cyanine-3-dUTP Cyanine-5-dUTP	Not available. Not available.
Vapor density	: Cyanine-3-dUTP Cyanine-5-dUTP	Not available. Not available.
Relative density	: Cyanine-3-dUTP Cyanine-5-dUTP	Not available. Not available.
Solubility	: Cyanine-3-dUTP Cyanine-5-dUTP	Easily soluble in the following materials: cold water and hot water. Easily soluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/water	: Cyanine-3-dUTP Cyanine-5-dUTP	Not available. Not available.
Auto-ignition temperature	: Cyanine-3-dUTP Cyanine-5-dUTP	Not available. Not available.
Decomposition temperature	: Cyanine-3-dUTP Cyanine-5-dUTP	Not available. Not available.
Viscosity	: Cyanine-3-dUTP Cyanine-5-dUTP	Not available. Not available.

Section 10. Stability and reactivity

10.1 Reactivity	: Cyanine-3-dUTP Cyanine-5-dUTP	No specific test data related to reactivity available for this product or its ingredients. No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability	: Cyanine-3-dUTP Cyanine-5-dUTP	The product is stable. The product is stable.

Section 10. Stability and reactivity

10.3 Possibility of hazardous reactions	: Cyanine-3-dUTP	Under normal conditions of storage and use, hazardous reactions will not occur.
	Cyanine-5-dUTP	Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid	: Cyanine-3-dUTP	No specific data.
	Cyanine-5-dUTP	No specific data.
10.5 Incompatible materials	: Cyanine-3-dUTP	May react or be incompatible with oxidizing materials.
	Cyanine-5-dUTP	May react or be incompatible with oxidizing materials.
10.6 Hazardous decomposition products	: Cyanine-3-dUTP	Under normal conditions of storage and use, hazardous decomposition products should not be produced.
	Cyanine-5-dUTP	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

Not available.

Irritation/Corrosion

Not available.

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Not available.

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Section 11. Toxicological information

Information on the likely routes of exposure : Cyanine-3-dUTP Not available.
Cyanine-5-dUTP Not available.

Potential acute health effects

Eye contact : Cyanine-3-dUTP No known significant effects or critical hazards.
Cyanine-5-dUTP No known significant effects or critical hazards.

Inhalation : Cyanine-3-dUTP No known significant effects or critical hazards.
Cyanine-5-dUTP No known significant effects or critical hazards.

Skin contact : Cyanine-3-dUTP No known significant effects or critical hazards.
Cyanine-5-dUTP No known significant effects or critical hazards.

Ingestion : Cyanine-3-dUTP No known significant effects or critical hazards.
Cyanine-5-dUTP No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : Cyanine-3-dUTP No specific data.
Cyanine-5-dUTP No specific data.

Inhalation : Cyanine-3-dUTP No specific data.
Cyanine-5-dUTP No specific data.

Skin contact : Cyanine-3-dUTP No specific data.
Cyanine-5-dUTP No specific data.

Ingestion : Cyanine-3-dUTP No specific data.
Cyanine-5-dUTP No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Long term exposure

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

General : Cyanine-3-dUTP No known significant effects or critical hazards.
Cyanine-5-dUTP No known significant effects or critical hazards.

Carcinogenicity : Cyanine-3-dUTP No known significant effects or critical hazards.
Cyanine-5-dUTP No known significant effects or critical hazards.

Mutagenicity : Cyanine-3-dUTP No known significant effects or critical hazards.
Cyanine-5-dUTP No known significant effects or critical hazards.

Teratogenicity : Cyanine-3-dUTP No known significant effects or critical hazards.
Cyanine-5-dUTP No known significant effects or critical hazards.

Developmental effects : Cyanine-3-dUTP No known significant effects or critical hazards.
Cyanine-5-dUTP No known significant effects or critical hazards.

Fertility effects : Cyanine-3-dUTP No known significant effects or critical hazards.
Cyanine-5-dUTP No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Not available.

Section 12. Ecological information

12.1 Toxicity

Not available.

12.2 Persistence and degradability

Not available.

12.3 Bioaccumulative potential

Not available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

12.5 Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

13.1 Waste treatment methods

Disposal methods : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations. Local regulations may be more stringent than regional or national requirements.

The information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees.

Section 14. Transport information

DOT / TDG / Mexico / IMDG / IATA : Not regulated.

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to Annex II of MARPOL and the IBC Code : Not available.

Section 15. Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

U.S. Federal regulations : TSCA 8(a) CDR Exempt/Partial exemption: Not determined

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Not listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Cyanine-3-dUTP Not applicable.
Cyanine-5-dUTP Not applicable.

Composition/information on ingredients

No products were found.

State regulations

Massachusetts : None of the components are listed.

New York : None of the components are listed.

New Jersey : None of the components are listed.

Pennsylvania : None of the components are listed.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Inventory list

Australia : Not determined.

Canada : Not determined.

China : All components are listed or exempted.

Section 15. Regulatory information

Europe	: All components are listed or exempted.
Japan	: <input checked="" type="checkbox"/> Japan inventory (ENCS) : Not determined. Japan inventory (ISHL) : All components are listed or exempted.
Malaysia	: <input checked="" type="checkbox"/> All components are listed or exempted.
New Zealand	: Not determined.
Philippines	: Not determined.
Republic of Korea	: Not determined.
Taiwan	: All components are listed or exempted.
Thailand	: <input checked="" type="checkbox"/> Not determined.
Turkey	: <input checked="" type="checkbox"/> Not determined.
United States	: All components are listed or exempted.
Viet Nam	: <input checked="" type="checkbox"/> Not determined.

Section 16. Other information

History

Date of issue	: 01/17/2018
Date of previous issue	: 04/30/2015.
Version	: 2

Indicates information that has changed from previously issued version.

Notice to reader

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