



# Detection Reagent-Substrate

## Safety Data Sheet

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations  
Date of issue: 11/8/2016 Revision date: 1/17/2025 Supersedes: 1/14/2025 Version: 10.0

### SECTION 1 Identification

#### 1.1. Product identifier

Product form : Mixture  
Product name : Detection Reagent-Substrate  
Product code : 049D  
Formula : C21H24ClO7PNa2

#### 1.2. Other means of identification

No additional information available

#### 1.3. Recommended use of the chemical and restrictions on use

Use of the substance/mixture : Research and development

#### 1.4. Supplier's details

G-Biosciences/ Geno Technology, Inc.  
9800 Page Avenue  
St. Louis, MO 63132-1429, USA  
Tel.1-800-628-7730  
[www.GBiosciences.com](http://www.GBiosciences.com)

#### 1.5. Emergency phone number

Emergency number : Chemtrec **1-800-424-9300** (USA/Canada), **+1-703-527-3887** (Intl)

### SECTION 2 Hazard Identification

#### 2.1. Classification of the substance or mixture

##### GHS US classification

Not classified

#### 2.2. Label elements

##### GHS US labeling

No labeling applicable

#### 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

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### 3.2. Mixtures

Name	Common Name (Synonyms)	Product identifier	%	GHS US classification
Enhancers (cross linked Phosphonium salts of polyvinyl benzyl chloride and Non-fluorescent organic molecules)		-	< 1	Not classified

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 you feel unwell, seek medical advice. Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service. Allow affected person to breathe fresh air. Allow the victim to rest.
First-aid measures after skin contact	: Rinse with water. Soap may be used. Take victim to a doctor if irritation persists. Remove affected clothing and wash all exposed skin area with mild soap and water, followed by warm water rinse. Wash skin with plenty of water.
First-aid measures after eye contact	: Rinse with water. Take victim to an ophthalmologist if irritation persists. Rinse immediately with plenty of water. Obtain medical attention if pain, blinking or redness persists. Rinse eyes with water as a precaution.
First-aid measures after ingestion	: Do not induce vomiting. Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention. Call a poison center/doctor/physician if you feel unwell.
Self protection of the first-aider	: First aid workers will be equipped with suitable personal protective equipment.

### 4.2. Most important symptoms/effects, acute and delayed

Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects	: Unlikely to cause harmful effects. Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after inhalation	: None under normal conditions.
Symptoms/effects after skin contact	: None under normal conditions.
Symptoms/effects after eye contact	: None under normal conditions.
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. Polyvalent foam. ABC powder. Carbon dioxide. Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media	: No unsuitable extinguishing media known. Do not use a heavy water stream.

### 5.2. Specific hazards arising from the chemical

Fire hazard	: No fire hazard.
Explosion hazard	: DIRECT EXPLOSION HAZARD: May form explosible dust-air mixture if dispersed. INDIRECT EXPLOSION HAZARD: Dust cloud can be ignited by a spark.
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

Precautionary measures fire	: Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows.
Firefighting instructions	: Dilute toxic gases with water spray. Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment. Do not enter fire area without proper protective equipment, including respiratory protection.
Protection during firefighting	: Heat/fire exposure: compressed air/oxygen apparatus. Heat/fire exposure: gas-tight suit. Do not enter fire area without proper protective equipment, including respiratory protection. 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

General measures	: Notify authorities if product enters sewers or public waters. Absorb spillage to prevent material-damage.
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#### For non-emergency personnel

Protective equipment	: Gloves (EN 374). Protective clothing (EN 14605 or EN 13034). Dust cloud production: self-contained breathing apparatus (EN 136 + EN 137).
Emergency procedures	: Ventilate spillage area. Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes. Evacuate unnecessary personnel.

#### For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures	: Ventilate area. Evacuate unnecessary personnel. Stop leak if safe to do so.
Environmental precautions	: Avoid release to the environment. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.2. Methods and materials for containment and cleaning up

For containment	: Contain released product, collect/pump into suitable containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. Powdered form: no compressed air for pumping over spills.
Methods for cleaning up	: Take up liquid spill into absorbent material. Prevent dust cloud formation. Scoop solid spill into closing containers. Powdered: do not use compressed air for pumping over spills. See "Material-handling" for suitable container materials. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. Soak up spills with inert solids, such as clay or diatomaceous earth as soon as possible. Collect spillage. Store away from other materials.
Other information	: Dispose of materials or solid residues at an authorized site.

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

## SECTION 7 Handling and storage

### 7.1. Precautions for safe handling

Precautions for safe handling	: Ensure good ventilation of the work station. Wear personal protective equipment. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent formation of vapor.
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Hygiene measures	: 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 in a well-ventilated place. Keep cool. Keep only in the original container in a cool, well ventilated place away from : Keep container closed when not in use.
Storage area	: Keep out of direct sunlight.
Incompatible products	: Strong bases. Strong acids.
Incompatible materials	: Sources of ignition. Direct sunlight.
Maximum storage period	: 2 year when stored in the dark at recommended storage temperature
Storage temperature	: 4 °C
Packaging materials	: Store always product in container of same material as original container.

## SECTION 8 Exposure controls/personal protection

### 8.1. Control parameters

No additional information available

### 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:

Avoid all unnecessary exposure.

<b>Hand protection:</b>
Protective gloves. Wear protective gloves.
<b>Eye protection:</b>
Chemical goggles or safety glasses. Safety glasses
<b>Skin and body protection:</b>
Wear suitable protective clothing
<b>Respiratory protection:</b>
In case of insufficient ventilation, wear suitable respiratory equipment. Wear appropriate mask

#### Personal protective equipment symbol(s):



#### Other information:

Do not eat, drink or smoke during use.

## SECTION 9 Physical and chemical properties

### 9.1. Basic physical and chemical properties

Physical state	: Liquid
Color	: Clear

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Odor	: characteristic
Odor threshold	: No data available
pH	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: 1000 °C
Flash point	: No data available
Flammability (solid, gas)	: Not applicable. Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Molecular mass	: 501.5 g/mol
Solubility	: No data available
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

### 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. Not established.

### 10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Not established.

### 10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7). Direct sunlight. Extremely high or low temperatures.

### 10.5. Incompatible materials

Strong acids. Strong bases.

### 10.6. Hazardous decomposition products

Hazardous decomposition products. fume. Carbon monoxide. Carbon dioxide.

## SECTION 11 Toxicological information

### 11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified
Skin corrosion/irritation	: Not classified
Serious eye damage/irritation	: Not classified
Respiratory or skin sensitization	: Not classified

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Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified
Potential Adverse human health effects and symptoms	: Based on available data, the classification criteria are not met.
Symptoms/effects	: Unlikely to cause harmful effects. Not expected to present a significant hazard under anticipated conditions of normal use.
Symptoms/effects after inhalation	: None under normal conditions.
Symptoms/effects after skin contact	: None under normal conditions.
Symptoms/effects after eye contact	: None under normal conditions.
Symptoms/effects after ingestion	: None under normal conditions.

## 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

### 12.2. Persistence and degradability

Detection Reagent-Substrate	
Persistence and degradability	Not established.

Enhancers (cross linked Phosphonium salts of polyvinyl benzyl chloride and Non-fluorescent organic molecules)	
Persistence and degradability	Not established.

### 12.3. Bioaccumulative potential

Detection Reagent-Substrate	
Bioaccumulative potential	Not established.

Enhancers (cross linked Phosphonium salts of polyvinyl benzyl chloride and Non-fluorescent organic molecules)	
Bioaccumulative potential	Not established.

### 12.4. Mobility in soil

No additional information available

### 12.5. Other adverse effects

Ozone	: Not classified
Fluorinated greenhouse gases	: No
Other information	: Avoid release to the environment.

## SECTION 13 Disposal considerations

Regional legislation (waste)	: Disposal must be done according to official regulations.
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Waste treatment methods	: Waste treatment methods.
Sewage disposal recommendations	: Disposal must be done according to official regulations.
Product/Packaging disposal recommendations	: Dispose in a safe manner in accordance with local/national regulations. Disposal must be done according to official regulations.
Additional information	: Do not re-use empty containers.
Ecological waste information	: Avoid release to the environment.

### SECTION 14 Transport information

In accordance with DOT / TDG / IATA

#### 14.1. UN number

Not regulated for transport

#### 14.2. UN Proper Shipping Name

Proper Shipping Name (DOT)	: Not applicable
Proper Shipping Name (TDG)	: Not applicable
Proper Shipping Name (IATA)	: Not applicable

#### 14.3. Transport hazard class(es)

**DOT**  
Transport hazard class(es) (DOT) : Not applicable

**TDG**  
Transport hazard class(es) (TDG) : Not applicable

**IATA**  
Transport hazard class(es) (IATA) : Not applicable

#### 14.4. Packing group

Packing group (DOT)	: Not applicable
Packing group (TDG)	: Not applicable
Packing group (IATA)	: Not applicable

#### 14.5. Environmental hazards

Other information : No supplementary information available.

#### 14.6. Transport in bulk

Not applicable

#### 14.7. Special precautions for user

**DOT**  
No data available

**TDG**  
No data available

**IATA**  
No data available

### SECTION 15 Regulatory information

#### 15.1. Federal regulations

Commercial status of components according to the United States Environmental Protection Agency's Toxic Substances Control Act (TSCA):

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Name	CAS-No.	Listing	Commercial status	Flags
Enhancers (cross linked Phosphonium salts of polyvinyl benzyl chloride and Non-fluorescent organic molecules)		Not present	-	

### 15.2. International regulations

#### CANADA

No additional information available

#### EU-Regulations

No additional information available

#### National regulations

No additional information available

### 15.3. State regulations

No additional information available

## SECTION 16 Other information

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Revision date : 1/17/2025  
Date of issue : 11/8/2016  
Other information : None.

Abbreviations and acronyms	
ACGIH	American Conference of Government Industrial Hygienists
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BCF	Bioconcentration factor
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
COD	Chemical oxygen demand (COD)
CSA	Chemical safety assessment
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
ED	Endocrine disruptor
EN	European Standard
EWC	European waste catalogue

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Abbreviations and acronyms	
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
Log Kow	Partition coefficient n-octanol/water (Log Kow)
Log Pow	Partition coefficient n-octanol/water (Log Pow)
MAK	maximum workplace concentration
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
N.O.S.	Not Otherwise Specified
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
OSHA	Occupational Safety & Health Administration
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
PPE	Personal protection equipment
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
TF	Technical function
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
TWA	Time Weighted Average
VOC	Volatile Organic Compounds
vPvB	Very Persistent and Very Bioaccumulative
UFI	Unique Formula Identifier

Safety Data Sheet (SDS), USA

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.