

## 08/31/2020 Kit Components

Product code	Description	
1610497 10017673	Oriole Fluorescent Gel Stain Kit	
Components:		
10017571 Oriole Fluorescent Gel Stain Concentrate 100X		
10017599	Oriole Fluorescent Gel Stain Diluent	





Printing date 08/31/2020 Reviewed on 08/14/2020

#### 1 Identification

- · Product identifier
- · Trade name: Oriole Fluorescent Gel Stain Concentrate 100X
- · Catalog or product number: 10017571, 10017653, 10017675
- · Application of the substance / the mixture Laboratory chemicals
- · Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Bio-Rad Laboratories, Life Science Group

2000 Alfred Nobel Drive

Hercules, California 94547

(510)741-1000

- · Information department: lsg\_techserv\_us@bio-rad.com
- · Emergency telephone number:

1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.

510-741-1000

### 2 Hazard(s) identification

· Classification of the substance or mixture
The product is not classified, according to the Globally Harmonized System (GHS).

- · Label elements
- · GHS label elements Not Applicable
- · Hazard pictograms Not Applicable
- · Signal word Not Applicable
- · Hazard statements Not Applicable
- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.

#### 3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · **Description**: Mixture of the substances listed below with non-hazardous additions.

· Listing of dangerous and non-hazardous components:		
64-17-5 ethanol	Flam. Liq. 2, H225	10-20%
	Repr. 1B, H360 Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335 Flam. Liq. 4, H227	1-2.5%

· Additional information For the wording of the listed risk phrases refer to section 15.

## 4 First-aid measures

- · Description of first aid measures
- · General information No special measures required.

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Trade name: Oriole Fluorescent Gel Stain Concentrate 100X

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- · After inhalation Supply fresh air; consult doctor in case of complaints.
- · After skin contact Generally the product does not irritate the skin.
- · After eye contact Rinse opened eye for several minutes under running water.
- · After swallowing Rinse mouth with water. Seek medical attention and appropriate follow-up.
- · Information for doctor
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- Indication of any immediate medical attention and special treatment needed No further relevant information available.

### 5 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents Use fire fighting measures that suit the environment.
- · Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
- · Protective equipment: No special measures required.

#### 6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- Environmental precautions:

Dilute with plenty of water.

Do not allow to enter sewers/ surface or ground water.

Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

· Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

· Protective Action Criteria for Chemicals

· PAC-1:		
ethanol 1,80		
N-methyl-2-pyrrolidone 30 /		
· PAC-2:		
64-17-5 ethanol	3300* ppm	
872-50-4 N-methyl-2-pyrrolidone	32 ppm	
· PAC-3:		
64-17-5 ethanol	15000* ppm	
872-50-4 N-methyl-2-pyrrolidone	190 ppm	

### 7 Handling and storage

- · Handling
- · Precautions for safe handling No special measures required.

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Trade name: Oriole Fluorescent Gel Stain Concentrate 100X

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- · Information about protection against explosions and fires: No special measures required.
- · Conditions for safe storage, including any incompatibilities
- Storage
- · Requirements to be met by storerooms and receptacles: According to product specification
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: None.
- · Specific end use(s) No further relevant information available.

#### 8 Exposure controls/personal protection

- · Additional information about design of technical systems: No further data; see item 7.
- · Control parameters
- · Components with limit values that require monitoring at the workplace:

#### 64-17-5 ethanol

PEL	Long-term value: 1900 mg/m³, 1000 ppm
REL	Long-term value: 1900 mg/m³, 1000 ppm
TLV	Short-term value: 1880 mg/m³, 1000 ppm

#### 872-50-4 N-methyl-2-pyrrolidone

TLV BEI

WEEL Long-term value: 10 ppm

Skin

· Ingredients with biological limit values:

#### 872-50-4 N-methyl-2-pyrrolidone

BEI 100 mg/L

Medium: urine

Time: end of shift

Parameter: 5-Hydroxy-N-methyl-2-pyrrolidone

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment
- General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed.
- · Breathing equipment: Not required.
- · Protection of hands: Protective gloves.
- · Material of gloves Synthetic gloves
- Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection: Safety glasses





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Trade name: Oriole Fluorescent Gel Stain Concentrate 100X

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Information on basic physical and	chomical properties	
General Information	chemical properties	
Appearance:		
Form:	Liquid	
Color:	Colorless	
Odor:	Alcohol-like	
Odor threshold:	Not determined.	
pH-value at 20 °C:	7	
Change in condition		
Melting point/Melting range:	undetermined	
Boiling point/Boiling range:	undetermined	
	***************************************	
Flash point:	Not applicable	
	Not determined.	
Flammability (solid, gaseous)	Not applicable.	
Ignition temperature:	425 °C	
Decomposition temperature:	Not determined.	
Auto igniting:	Product is not selfigniting.	
Danger of explosion:	Not determined.	
Explosion limits:		
Lower:	3.5 Vol %	
Upper:	15 Vol %	
Vapor pressure at 20 °C:	59 hPa	
Density:	Not determined	
Relative density	Not determined.	
Vapor density	Not determined.	
Evaporation rate	Not determined.	
Solubility in / Miscibility with		
Water:	Not miscible or difficult to mix	
Partition coefficient (n-octanol/wa	ter): Not determined.	
Viscosity:		
dynamic:	Not determined.	
kinematic:	Not determined.	
	Not dotominou.	
Solvent content:	40.0.0/	
Organic solvents:	18.2 %	
Water:	71.6 %	
Solids content:	10.2 %	





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· Other information

No further relevant information available.

### 10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known

#### 11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:

riouto texiony.					
· LD/LC50	· LD/LC50 values for hazardous components per OSHA criteria:				
64-17-5 et	64-17-5 ethanol				
Oral	Oral LD50 7,060 mg/kg (rat)				
Inhalative	Inhalative LC50/4 h 20,000 mg/l (rat)				
872-50-4 I	N-methyl-2	2-pyrrolidone			
Oral	LD50	3,600 mg/kg (rat)			
Dermal	Dermal LD50 8,000 mg/kg (rbt)				

- · Primary irritant effect:
- · on the skin: No irritant effect.
- · on the eye: No irritant effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· Carcinogenic categories

· IARC (International Agency for Research on Cancer)

64-17-5 ethanol

· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Target organs: Not applicable.





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### 12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes:

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water.

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- · Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

#### 13 Disposal considerations

- · Waste treatment methods
- · Recommendation Dispose of waste in accordance to applicable national, regional, or local regulations.
- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

14 Transport information		
· UN-Number · DOT, ADR, ADN, IMDG, IATA	Not Regulated	
<ul> <li>UN proper shipping name</li> <li>DOT, ADN, IMDG, IATA</li> <li>ADR</li> </ul>	Not Regulated Not Regulated Not Regulated	
· Transport hazard class(es)		
· DOT, ADR, ADN, IMDG, IATA · Class	Not Regulated	
· Packing group · DOT, ADR, IMDG, IATA	Not Regulated	
· Environmental hazards: · Marine pollutant:	No	
· Special precautions for user	Not applicable.	
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	(Conta. of page o)
· Transport in bulk according to Annex II of MARPOL73/78	
and the IBC Code Not applicable.	
· Transport/Additional information: Not dangerous according to the above specifications.	
· UN "Model Regulation":	Not Regulated

#### 15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- · SARA (Superfund Amendents and Reauthorization Act of 1986 USA)
- Section 302/304 (40CFR355.30 / 40CFR355.40):

None of the ingredients is listed.

Section 313 (40CFR372.65):

872-50-4 N-methyl-2-pyrrolidone

· TSCA (Toxic Sub	stances Con	trol A	Act).	:
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7732-18-5	water	ACTIVE
64-17-5	ethanol	ACTIVE
9003-11-6	Polypropylene oxide-propylene glycol	ACTIVE
872-50-4	N-methyl-2-pyrrolidone	ACTIVE

· Hazardous Air Pollutants

None of the ingredients is listed.

- · California Proposition 65:
- · Chemicals known to cause cancer:

The product does not contain listed components.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Developmental Toxicity

64-17-5 ethanol

64-17-5 ethanol

872-50-4 N-methyl-2-pyrrolidone

- · Carcinogenic categories
- · EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

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Trade name: Oriole Fluorescent Gel Stain Concentrate 100X

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- · National regulations
- · Technical instructions (air):

Class	Share in %
NK	10-20

- · Water hazard class: Water hazard class 1 (Self-assessment): slightly hazardous for water.
- · Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

#### **16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: Environmental Health and Safety.
- · Contact:

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

- · Date of preparation / last revision 08/31/2020 / -
- · Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative NIOSH: National Institute for Occupational Safety

NIOSH: National Institute for Occupationa OSHA: Occupational Safety & Health

TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

BEI: Biological Exposure Limit

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 4: Flammable liquids – Category 4

Skin Irrit. 2: Skin corrosion/irritation – Category 2 Eve Irrit. 2A: Serious eye damage/eye irritation – Category 2A

Repr. 1B: Reproductive toxicity – Category 1B

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

· \* Data compared to the previous version altered.





Printing date 08/31/2020 Reviewed on 08/11/2020

#### 1 Identification

- · Product identifier
- · Trade name: Oriole Fluorescent Gel Stain Diluent
- · Catalog or product number: 10017599, 10017654, 10017676
- · Application of the substance / the mixture Laboratory chemicals
- · Details of the supplier of the safety data sheet
- · Manufacturer/Supplier:

Bio-Rad Laboratories, Life Science Group

2000 Alfred Nobel Drive

Hercules, California 94547

(510)741-1000

- · Information department: lsg\_techserv\_us@bio-rad.com
- · Emergency telephone number:

1(800)424-9300 Use only in the event of a CHEMICAL EMERGENCY involving a SPILL, LEAK, FIRE, EXPLOSION or ACCIDENT.

510-741-1000

#### 2 Hazard(s) identification

Classification of the substance or mixture
 The product is not classified, according to the Globally Harmonized System (GHS).

- · Label elements
- · GHS label elements Not Applicable
- · Hazard pictograms Not Applicable
- · Signal word Not Applicable
- · Hazard statements Not Applicable
- · Other hazards
- · Results of PBT and vPvB assessment
- · **PBT:** Not applicable.
- · vPvB: Not applicable.

#### 3 Composition/information on ingredients

- · Chemical characterization: Substances
- · CAS No. Description:

7732-18-5 water

- · Identification number(s):
- · EC number: 231-791-2
- · Chemical characterization: Mixtures
- · Description: Mixture of the substances listed below with non-hazardous additions.
- · Listing of dangerous and non-hazardous components: Not applicable.
- · Additional information For the wording of the listed risk phrases refer to section 15.

### 4 First-aid measures

- · Description of first aid measures
- · General information No special measures required.

(Contd. on page 2)





Printing date 08/31/2020 Reviewed on 08/11/2020

Trade name: Oriole Fluorescent Gel Stain Diluent

(Contd. of page 1)

- · After inhalation Supply fresh air; consult doctor in case of complaints.
- · After eye contact Rinse opened eye for several minutes under running water.
- · After swallowing Rinse mouth with water. Seek medical attention and appropriate follow-up.
- · Information for doctor
- · Most important symptoms and effects, both acute and delayed No further relevant information available.
- Indication of any immediate medical attention and special treatment needed No further relevant information available.

#### 5 Fire-fighting measures

- · Extinguishing media
- · Suitable extinguishing agents Use fire fighting measures that suit the environment.
- · Special hazards arising from the substance or mixture No further relevant information available.
- · Advice for firefighters
- · Protective equipment: No special measures required.

#### 6 Accidental release measures

- · Personal precautions, protective equipment and emergency procedures Wear protective clothing.
- · Environmental precautions: Dilute with plenty of water.
- Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

Reference to other sections

No dangerous substances are released.

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

#### 7 Handling and storage

- · Handling
- · Precautions for safe handling No special measures required.
- · Information about protection against explosions and fires: No special measures required.
- · Conditions for safe storage, including any incompatibilities
- · Storage
- · Requirements to be met by storerooms and receptacles: According to product specification
- · Information about storage in one common storage facility: Not required.
- · Further information about storage conditions: None.
- · Specific end use(s) No further relevant information available.

#### 8 Exposure controls/personal protection

· Additional information about design of technical systems: No further data; see item 7.

(Contd. on page 3)





Printing date 08/31/2020 Reviewed on 08/11/2020

Trade name: Oriole Fluorescent Gel Stain Diluent

(Contd. of page 2)

- · Control parameters
- · Components with limit values that require monitoring at the workplace:

#### 7664-38-2 phosphoric acid

PEL Long-term value: 1 mg/m³
REL Short-term value: 3 mg/m³
Long-term value: 1 mg/m³
TLV Short-term value: 3 mg/m³
Long-term value: 1 mg/m³

- · Additional information: The lists that were valid during the creation were used as basis.
- · Exposure controls
- · Personal protective equipment
- · General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed.
- · Breathing equipment: Not required.
- · Protection of hands: Protective gloves.
- · Material of gloves Synthetic gloves
- · Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· Eye protection: Safety glasses

#### 9 Physical and chemical properties

- · Information on basic physical and chemical properties
- · General Information

· Appearance:

Form: Liquid
Color: Colorless
Odor: Odorless

· Odor threshold: Not determined.

• **pH-value at 20 °C:** <2.1

· Change in condition

**Melting point/Melting range:** 0 °C **Boiling point/Boiling range:** undetermined

• Flash point: Not applicable Not determined.

· Flammability (solid, gaseous) Not applicable.

· Decomposition temperature: Not determined.

· **Auto igniting:** Product is not selfigniting.

· Danger of explosion: Not determined.

· Explosion limits:

**Lower:** Not determined.

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Trade name: Oriole Fluorescent Gel Stain Diluent

		(Contd. of page 3
Upper:	Not determined.	
· Vapor pressure at 20 °C:	23 hPa	
· Density at 20 °C:	1.01333 g/cm <sup>3</sup>	
· Relative density	Not determined.	
· Vapor density	Not determined.	
Evaporation rate	Not determined.	
· Solubility in / Miscibility with		
Water:	Not miscible or difficult to mix	
· Partition coefficient (n-octanol/wa	ater): Not determined.	
· Viscosity:		
dynamic:	Not determined.	
kinematic:	Not determined.	
· Solvent content:		
Water:	97.6 %	
· Other information	No further relevant information available.	

## 10 Stability and reactivity

- · Reactivity No further relevant information available.
- · Chemical stability
- · Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- · Possibility of hazardous reactions No dangerous reactions known
- · Conditions to avoid No further relevant information available.
- · Incompatible materials: No further relevant information available.
- · Hazardous decomposition products: No dangerous decomposition products known

#### 11 Toxicological information

- · Information on toxicological effects
- · Acute toxicity:
- Primary irritant effect:
- · on the skin: No irritant effect.
- · on the eye: No irritant effect.
- · Sensitization: No sensitizing effects known.
- · Additional toxicological information:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- · Carcinogenic categories
- · IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

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Trade name: Oriole Fluorescent Gel Stain Diluent

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· NTP (National Toxicology Program)

None of the ingredients is listed.

· OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

· Target organs: Not applicable.

### 12 Ecological information

- · Toxicity
- · Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.
- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- Additional ecological information:
- · General notes: Generally not hazardous for water.
- Results of PBT and vPvB assessment
- · PBT: Not applicable.
- · vPvB: Not applicable.
- · Other adverse effects No further relevant information available.

#### 13 Disposal considerations

- · Waste treatment methods
- · Recommendation

Must not be disposed of together with household garbage. Do not allow product to reach sewage system. Dispose of waste in accordance to applicable national, regional, or local regulations.

- · Uncleaned packagings:
- · Recommendation: Disposal must be made according to official regulations.
- · Recommended cleansing agent: Water, if necessary with cleansing agents.

#### 14 Transport information

. I IN-Number

· DOT, ADR, ADN, IMDG, IATA	Not Regulated
· UN proper shipping name	

DOT, ADN, IMDG, IATA
 ADR
 Not Regulated
 Not Regulated
 Not Regulated

· Transport hazard class(es)

· DOT, ADR, ADN, IMDG, IATA

· Class Not Regulated

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Trade name: Oriole Fluorescent Gel Stain Diluent

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- · Packing group
- · DOT, ADR, IMDG, IATA

Not Regulated

- · Environmental hazards:
- · Marine pollutant:

No

· Special precautions for user

- Not applicable.
- Transport in bulk according to Annex II of MARPOL73/78

and the IBC Code

Not applicable.

· UN "Model Regulation":

Not Regulated

## 15 Regulatory information

- · Safety, health and environmental regulations/legislation specific for the substance or mixture
- · SARA (Superfund Amendents and Reauthorization Act of 1986 USA)
- Section 302/304 (40CFR355.30 / 40CFR355.40):

None of the ingredients is listed.

- Section 313 (40CFR372.65):
- None of the ingredients is listed.
- · TSCA (Toxic Substances Control Act):

All components have the value ACTIVE.

- · Hazardous Air Pollutants
- None of the ingredients is listed.
- · California Proposition 65:
- · Chemicals known to cause cancer:

The product does not contain listed components.

· Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

· Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

· Developmental Toxicity

None of the ingredients is listed.

- · Carcinogenic categories
- · EPA (Environmental Protection Agency)

None of the ingredients is listed.

· TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

· NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

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Trade name: Oriole Fluorescent Gel Stain Diluent

(Contd. of page 6)

- · National regulations
- · Water hazard class: Generally not hazardous for water.
- · Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

#### **16 Other information**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- · Department issuing SDS: Environmental Health and Safety.
- · Contact:

Life Science Group, Environmental Health and Safety, 2000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 741-1000

Diagnostic Group, Environmental Health and Safety, 4000 Alfred Nobel Drive, Hercules, California, 94547: 1(510) 724-7000

- · Date of preparation / last revision 08/31/2020 / -
- Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

PBT: Persistent, Bioaccumulative and Toxic vPvB: very Persistent and very Bioaccumulative

NIOSH: National Institute for Occupational Safety

OSHA: Occupational Safety & Health

USHA: Uccupational Safety & Healti TLV: Threshold Limit Value

PEL: Permissible Exposure Limit

REL: Recommended Exposure Limit

· \* Data compared to the previous version altered.

US