Safety Data Sheet
acc. to OSHA HCS

Printing date 11/23/2023 Reviewed on 11/23/2023

*
1 Identification

· **Product identifier**

· **Trade name: Opti-Fluor**

· **Article number:** 6013199, 6013193, 6013194
· **Application of the substance / the mixture** Laboratory chemicals

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Revvity Health Sciences B.V.
Rigaweg 22
9723 TH Groningen
The Netherlands
Phone: 0031 50 5445900
www.revvity.com

· **Information department:**
Quality Assurance, Environment, Safety & Health (QA/ESH)
SDS.Groningen@revvity.com
· **Emergency telephone number:**
+31 50 5445971
CHEMTREC (within U.S.A. and Canada) 1-800-424-9300
CHEMTREC (from outside U.S.A. and Canada) +1703-527-3887

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2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS08 Health hazard

Carcinogenicity 2 H351 Suspected of causing cancer.
Aspiration Hazard 1 H304 May be fatal if swallowed and enters airways.

GHS05 Corrosion

Eye Damage 1 H318 Causes serious eye damage.

GHS07

Skin Irritation 2 H315 Causes skin irritation.

Aquatic Chronic 3 H412 Harmful to aquatic life with long lasting effects.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS05 GHS08

(Contd. on page 2)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/23/2023 *Reviewed on 11/23/2023*

Trade name: Opti-Fluor

(Contd. of page 1)

· **Signal word** Danger

· **Hazard-determining components of labeling:**
benzene, C10-13-alkyl derivatives
Sodium dioctyl sulphosuccinate
tributyl phosphate
Alkylphenol Polyglycolether
· **Hazard statements**
H315 Causes skin irritation.
H318 Causes serious eye damage.
H351 Suspected of causing cancer.
H304 May be fatal if swallowed and enters airways.
H412 Harmful to aquatic life with long lasting effects.
· **Precautionary statements**

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	If swallowed: Immediately call a poison center/doctor.
P302+P352	If on skin: Wash with plenty of water.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture: consisting of the following components.

· **Dangerous components:**		
67774-74-7	benzene, C10-13-alkyl derivatives Aspiration Hazard 1, H304	60-80%
577-11-7	Sodium dioctyl sulphosuccinate Eye Damage 1, H318 Skin Irritation 2, H315	10-20%
9016-45-9	Alkylphenol Polyglycolether Eye Damage 1, H318 Acute Toxicity - Oral 4, H302	2.5-10%
126-73-8	tributyl phosphate Carcinogenicity 2, H351 Acute Toxicity - Oral 4, H302; Skin Irritation 2, H315 Aquatic Chronic 3, H412	2.5-10%
68412-53-3	Nonylphenyl (branched) polyoxyethylene ether phosphate Eye Damage 1, H318 Aquatic Chronic 2, H411 Skin Irritation 2, H315	0-2.5%

· **Non-Dangerous components**		
92-71-7	2,5-Diphenyloxazole (PPO)	0-2.5%

(Contd. on page 3)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/23/2023 *Reviewed on 11/23/2023*

Trade name: Opti-Fluor

(Contd. of page 2)

7732-18-5	water, distilled, conductivity or of similar purity	0-2.5%
13280-61-0	1,4-Bis-(2-methylstyryl)-benzene (bis-MSB)	0-2.5%

· ***Additional information:*** *For the wording of the listed hazard phrases refer to section 16.*

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4 First-aid measures

· ***Description of first aid measures***
· ***After inhalation:*** *Supply fresh air; consult doctor in case of complaints.*
· ***After skin contact:*** *Immediately wash with water and soap and rinse thoroughly.*
· ***After eye contact:***
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· ***After swallowing:*** *Rinse out mouth and then drink plenty of water.*
· ***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.

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5 Fire-fighting measures

· ***Extinguishing media***
· ***Suitable extinguishing agents:***
Foam
Fire-extinguishing powder
Carbon dioxide
· ***Special hazards arising from the substance or mixture*** *Carbon monoxide (CO)*
· ***Advice for firefighters***
· ***Protective equipment:*** *No special measures required.*

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6 Accidental release measures

· ***Personal precautions, protective equipment and emergency procedures*** *Ensure adequate ventilation*
· ***Environmental precautions:***
Do not allow product to reach sewage system or any water course.
Inform respective authorities in case of seepage into water course or sewage system.
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***
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:***		
577-11-7	Sodium dioctyl sulphosuccinate	5.7 mg/m³
9016-45-9	Alkylphenol Polyglycolether	43 mg/m³
126-73-8	tributyl phosphate	1.4 ppm
92-71-7	2,5-Diphenyloxazole (PPO)	2.5 mg/m³
13280-61-0	1,4-Bis-(2-methylstyryl)-benzene (bis-MSB)	12 mg/m³

(Contd. on page 4)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/23/2023 *Reviewed on 11/23/2023*

Trade name: Opti-Fluor

(Contd. of page 3)

· **PAC-2:**		
577-11-7	Sodium dioctyl sulphosuccinate	63 mg/m³
9016-45-9	Alkylphenol Polyglycolether	470 mg/m³
126-73-8	tributyl phosphate	8.3 ppm
92-71-7	2,5-Diphenyloxazole (PPO)	27 mg/m³
13280-61-0	1,4-Bis-(2-methylstyryl)-benzene (bis-MSB)	130 mg/m³

· **PAC-3:**		
577-11-7	Sodium dioctyl sulphosuccinate	380 mg/m³
9016-45-9	Alkylphenol Polyglycolether	5,400 mg/m³
126-73-8	tributyl phosphate	125 ppm
92-71-7	2,5-Diphenyloxazole (PPO)	160 mg/m³
13280-61-0	1,4-Bis-(2-methylstyryl)-benzene (bis-MSB)	790 mg/m³

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7 Handling and storage

· **Handling:**
· **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
· **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:** Store in a cool location.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep receptacle tightly sealed.
· **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

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

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

126-73-8 tributyl phosphate	
PEL	5 mg/m³
REL	2.5 mg/m³, 0.2 ppm
TLV	2.2 mg/m³, 0.2 ppm BEI

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes.

(Contd. on page 5)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/23/2023 Reviewed on 11/23/2023

Trade name: Opti-Fluor

(Contd. of page 4)

Avoid contact with the eyes and skin.
· **Breathing equipment:** Not required.
· **Protection of hands:**

Protective gloves

EN ISO 374-1/Type B
· **Material of gloves**
Nitrile rubber, NBR
Recommended thickness of the material: ≥ 0.2 mm
Breakthrough time: > 120 minutes
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· **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:**

Tightly sealed goggles

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Color:	Colorless
· **Odor:**	Characteristic
· **Change in condition**	
Melting point/Melting range:	-70 °C (-94 °F)
Boiling point/Boiling range:	271 °C (519.8 °F)
· **Flash point:**	150 °C (302 °F)
· **Auto igniting:**	400 °C (752 °F)
· **Ignition temperature:**	Product is not selfigniting.
· **Danger of explosion:**	Product does not present an explosion hazard.
· **Density at 20 °C (68 °F):**	0.900 g/cm³ (7.5105 lbs/gal)
· **Solubility in / Miscibility with**	
Water:	Not miscible or difficult to mix.
· **Solvent content:**	
VOC content:	2.5-10 %
· **Other information**	No further relevant information available.

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(Contd. on page 6)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/23/2023 *Reviewed on 11/23/2023*

Trade name: Opti-Fluor

(Contd. of page 5)

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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:*** *Carbon monoxide*

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11 Toxicological information

· ***Information on toxicological effects***
· ***Acute toxicity:***

· ***LD/LC50 values that are relevant for classification:***		
ATE (Acute Toxicity Estimate)		
Oral	*LD50*	*>3,013 mg/kg*
Dermal	*LD50*	*119,231 mg/kg (Rabbit)*

126-73-8 tributyl phosphate		
Oral	*LD50*	*1,550 mg/kg (Rat)*
Dermal	*LD50*	*3,100 mg/kg (Rabbit)*

· ***Primary irritant effect:***
· ***on the skin:*** *Irritant to skin and mucous membranes.*
· ***on the eye:*** *Irritating effect.*
· ***Sensitization:*** *No sensitizing effects known.*
· ***Additional toxicological information:***
The product shows the following dangers according to internally approved calculation methods for preparations:
Irritant

· ***Carcinogenic categories***

· ***IARC (International Agency for Research on Cancer)***
None of the ingredients is listed.

· ***NTP (National Toxicology Program)***
None of the ingredients is listed.

· ***OSHA-Ca (Occupational Safety & Health Administration)***
None of the ingredients is listed.

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12 Ecological information

· ***Toxicity***

· ***Aquatic toxicity:***		
126-73-8 tributyl phosphate		
Inhalative	*EC50/48h*	*1.8 mg/l (Daphnia magna)* *fresh water*

· ***Persistence and degradability*** *No further relevant information available.*

(Contd. on page 7)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/23/2023 *Reviewed on 11/23/2023*

Trade name: Opti-Fluor

(Contd. of page 6)

· ***Behavior in environmental systems:***
· ***Bioaccumulative potential*** *No further relevant information available.*
· ***Mobility in soil*** *No further relevant information available.*
· ***Results of PBT and vPvB assessment***
· ***PBT:*** *Not applicable.*
· ***vPvB:*** *Not applicable.*
· ***Other adverse effects*** *No further relevant information available.*

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13 Disposal considerations

· ***Waste treatment methods***
· ***Recommendation:***
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· ***Uncleaned packagings:***
· ***Recommendation:*** *Disposal must be made according to official regulations.*

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14 Transport information

· ***UN-Number***	
· ***ADR, ADN, IMDG, IATA***	*Void*
· ***UN proper shipping name***	
· ***ADR, ADN, IMDG, IATA***	*Void*
· ***Transport hazard class(es)***	
· ***ADR, ADN, IMDG, IATA***	
· ***Class***	*Void*
· ***Packing group***	
· ***ADR, IMDG, IATA***	*Void*
· ***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.*
· ***Transport/Additional information:***	*Not dangerous according to the above specifications.*
· ***UN "Model Regulation":***	*Void*

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15 Regulatory information

· ***Safety, health and environmental regulations/legislation specific for the substance or mixture***
No further relevant information available.
· ***Sara***

· ***Section 355 (extremely hazardous substances):***
None of the ingredient is listed.

(Contd. on page 8)

Safety Data Sheet
acc. to OSHA HCS

Printing date 11/23/2023 *Reviewed on 11/23/2023*

Trade name: Opti-Fluor

(Contd. of page 7)

· **Section 313 (Specific toxic chemical listings):**

9016-45-9	Alkylphenol Polyglycolether

· **TSCA (Toxic Substances Control Act):**
All components have the value ACTIVE.

· **Hazardous Air Pollutants**
None of the ingredients is listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **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.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Carcinogenic categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value)**
None of the ingredients is listed.

· **MAK (German Maximum Workplace Concentration)**

126-73-8	tributyl phosphate	4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS05 GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**
benzene, C10-13-alkyl derivatives
Sodium dioctyl sulphosuccinate
tributyl phosphate
Alkylphenol Polyglycolether
· **Hazard statements**
H315 Causes skin irritation.
H318 Causes serious eye damage.
H351 Suspected of causing cancer.
H304 May be fatal if swallowed and enters airways.
H412 Harmful to aquatic life with long lasting effects.

(Contd. on page 9)

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Safety Data Sheet
acc. to OSHA HCS

Printing date 11/23/2023 *Reviewed on 11/23/2023*

Trade name: Opti-Fluor

(Contd. of page 8)

· ***Precautionary statements***

P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310	If swallowed: Immediately call a poison center/doctor.
P302+P352	If on skin: Wash with plenty of water.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

· ***Chemical safety assessment:*** *A Chemical Safety Assessment has not been carried out.*

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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.

· ***Relevant phrases***
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H351 Suspected of causing cancer.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.

· ***Department issuing SDS:*** *Quality Assurance, Environment, Safety & Health (QA/ESH)*
· ***Contact:*** *SDS.Groningen@revvity.com*
· ***Date of preparation / last revision*** *11/23/2023*
· ***Abbreviations and acronyms:***
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organisation
ICAO-TI: Technical Instructions by the "International Civil Aviation Organisation" (ICAO)
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
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)
VOC: Volatile Organic Compounds (USA, EU)
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
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Acute Toxicity - Oral 4: Acute toxicity – Category 4
Skin Irritation 2: Skin corrosion/irritation – Category 2
Eye Damage 1: Serious eye damage/eye irritation – Category 1
Carcinogenicity 2: Carcinogenicity – Category 2
Aspiration Hazard 1: Aspiration hazard – Category 1
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3

· **** Data compared to the previous version altered.***