
Material Safety Data Sheet According to Directory 91/55/EEC

May not comply with national legislation: shall be used only as a source of information

PHOTOINITIATOR 1173**EDITION DATE: JAN. 26, 2017**

1. Identification of the Substance/Preparation and the Company/Undertaking

Product name PHOTOINITIATOR 1173
Chemical name 2-Hydroxy-2-methylpropiophenone
CAS Number 7473-98-5
Use Photochemical

2. Composition/Information on Ingredients**Substances presenting a health or environmental hazard**

EC-Number	CAS Number	Chemical Name	Content	Symbol(s)	R-Phrase(s)
231-272-0	7473-98-5	2-Hydroxy-2-methylpropiophenone (PHOTOINITIATOR 1173)	100%	Xn-N	R22-R50/53

3. Hazards Identification

Classified as hazardous according the EU directives.

Xn Harmful

N Dangerous for the environment

Harmful if swallowed

Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

4. First Aid Measures**Skin contact**

Wipe with absorbent paper or textile towels. Wash off with soap and plenty of water. Do not use organic solvents.

Eye contact

Rinse immediately with plenty of water for at least 15 minutes. In case of eye irritation, seek medical attention.

Inhalation

Move to fresh air. In case of irritation of respiratory system or mucous membranes, seek medical attention. In case of indisposition, seek medical attention. In case of prolonged exposure, seek medical attention.

Ingestion

Immediately give plenty (>500ml) of water (if possible charcoal slurry). In case of spontaneous vomiting be sure that vomitus can freely drain due to danger of suffocation. Give water repeatedly. Artificial induction of vomiting should be restricted to first aid staff. Give nothing by mouth in case of unconsciousness or convulsion. Seek medical advice.

5. Fire- Fighting Measures**Suitable extinguishing media**

Water spray, Foam, Carbon dioxide (CO₂), Dry powder

Extinguishing media which must not be used for safety reasons

High volume water jet

Exposure hazards

Contaminated water from hoses or sprinklers, etc., must be prevented from draining into water courses, sewers, or the ground water. Sufficient measures must be taken to retain water used for extinguishing. Contaminated water and soil must be disposed of in conformity with local regulations.

Special protective equipment for firefighters

Wear full protective clothing. Wear self-contained breathing apparatus.

Combustion products

Oxides of carbon; Toxic gases/vapours

6. Accidental Release Measures**Personal precautions**

Remove all sources of ignition. Avoid contact with skin, eyes and clothing.

Environmental precautions

Do not flush into surface water, sanitary sewer or ground water system.

Methods for cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect the spilled product into suitable containers, which must be tightly sealed and properly labelled.

7. Handling and Storage**Handling**

Handle and open container with care. Avoid vapour formation and ignition sources. Ensure good local exhaust ventilation.

Do not eat, drink or smoke at the workplace.

Storage

Keep away from food and drink. Store in the original container securely closed.

Protect from light.

8. Exposure Controls/Personal Protection**Exposure limit(s)-8hour time weighted average**

6.0mg/m³

Toxic effects on liver observed in animal study

Technical measures/Precautions

Exposure Limit(s) should be monitored using suitable analytical equipments .

Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment.

Hand protection

Protective gloves

Eye protection & Skin and body protection

Suitable goggles or face protection

Working clothes, Closed footwear

9. Physical and Chemical Properties

Form	liquid
Color	colourless to light yellow
Odor	typical
Melting/freezing temperature	4°C
Boiling point/range 0.13mbar	80-81°C
Relative density 20°C	1.08g/cm ³
Flash point	110°C
Flammability	not tested
Ignition Temperature	not tested
Oxidising properties	not tested
Self-ignition temperature	not tested
Water solubility 20°C	ca0.9%
Solubility	not tested
Flash point	110°C
Vapour pressure 20°C	1Pa
Partition coefficient; Log Pow 25°C	1.62
PH-value	not tested
Dynamic Viscosity 20°C	23.5 mPa.s
Explosive properties	not tested
Evaporation rate	not tested
Vapour density	not tested

10. Stability and Reactivity

Decomposition temperature	>250°C
Conditions to avoid	keep away from light
Materials to avoid	Strong acids, strong bases and strong oxidizing to avoid agents.
Hazardous decomposition products	Combustion may result in the formation of : Oxides of carbon, Toxic gases/vapours.

11. Toxicological Information

Acute oral toxicity	LD50	1694mg/kg
Rat		
Acute dermal toxicity	not tested	
Acute Inhalation Toxicity	not tested	
Acute eye irritation/corrosion	not irritant	
Rabbit		
Acute dermal	not irritant	
Irritation/corrosion		
Rabbit		
Acute Skin sensitization	not sensitising	OECD 406/EEC B 6

12. Ecological Information

Acute toxicity to fish	LC50 160mg/l	
Golden orfe (<i>Leuciscus idus</i>) 48 h		
Acute toxicity to daphnia	not tested	
Acute toxicity to bacteria	LC50 3mg/l	OECD 209
Sewage sludge		
Acute toxicity to algae	EC50 0.64mg/l	
<i>Scenedesmus</i> sp.72 h	EC0.64mg/l	
Biodegradability	59%	OECD 301D
28d	Biodegradable but not readily biodegradable	
Ecotoxic effects	Do not discharge product uncontrolled into the environment	

13. Disposal Considerations

Waste from residues/unused products

Residual chemical should be disposed by incineration or by other modes of disposal in compliance with local legislation.

Contaminated packaging

Contaminated packaging material should be treated equivalent to residual chemical. Clean packaging material should be subjected to waste management schemes (recovery recycling, reuse) according to local legislation.

14. Transport Information

ADR/RID	Class Free
IMO	Class: Free
ICAO	Class Free

15. Regulatory Information

Classification	Self-classification
Symbol(s)	Xn Harmful. N Dangerous for the environment
R-Phrase(s)	R22 Harmful if swallowed. R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
S-Phrase(s)	S46 if swallowed, seek medical advice immediately and show this container or label.
	S60 This material and/or its container must be disposed of as hazardous waste
	S61 Avoid release to the environment. Refer to special instruction Or Safety data sheets.
Contains	2-Hydroxy-2-methylpropiophenone (PHOTOINITIATOR 1173)
EC Number	231-272-0

16. Other Information

R-phrases from chapter 2

R22 Harmful if swallowed

R50/53 Very toxic to aquatic organisms, may cause long-term

Adverse effects in the aquatic environment

Essential changes

Section1; Section2;Section3; Section9;Section10;Section14;Section15

Notice:

This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with any legal regulation. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.

Material Safety Data Sheet according to Directive 91/155/EEC

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Edition Date: Jan 10, 2017

PHOTOINITIATOR-184

1. Identification of the Substance/Preparation and the Company/Undertaking

Product name : PHOTOINITIATOR-184

Chemical identification: 1-Hydroxy-cyclohexyl phenyl ketone

CAS Number: 947-19-3

Use: Photochemical

2. Composition/Information on Ingredients

The product contains no substances classified as hazardous to health in concentrations which should be taken into account according to EC directive.

3. Hazards Identification

Not classified as hazardous according the EU directives.

No special hazards.

4. First Aid Measures

Skin contact

Wash off with soap and plenty of water. Do not use organic solvents.

Eye contact

Rinse immediately with plenty of water for at least 15 minutes. In case of eye irritation, seek medical attention.

Inhalation

Move to fresh air. In case of irritation of respiratory system or mucous membranes, seek medical attention. In case of indisposition, seek medical attention. In case of prolonged exposure, seek medical attention.

Ingestion

Immediately give plenty (> 500 ml) of water (if possible charcoal slurry). In case of spontaneous vomiting be sure that vomitus can freely drain due to danger of suffocation. Give water repeatedly. Artificial induction of vomiting should be restricted to first aid staff. Give nothing by mouth in cases of unconsciousness or convulsion. Seek medical advice.

5. Fire-Fighting Measures

Suitable extinguishing media

Water spray, Carbon dioxide (CO₂), Foam, Dry powder

Extinguishing media which must not be used for safety reasons

High volume water jet

Exposure hazards

Contaminated water from fire hoses or sprinklers, etc., must be prevented from draining into watercourses, sewers, or the ground water. Sufficient measures must be taken to retain water used for extinguishing. Contaminated water and soil must be disposed of in conformity with local regulations.

Special protective equipment for firefighters

Wear full protective clothing. Wear self-contained breathing apparatus.

Combustion products

Oxides of carbon; Toxic gases/vapours

6. Accidental Release Measures

Personal precautions

Do not breathe vapours/dust. Remove all sources of ignition. Avoid contact with skin, eyes and clothing.

Environmental precautions

Do not flush into surface water, sanitary sewer or ground water system.

Methods for cleaning up

Use mechanical handling equipment. Collect the spilled product into suitable containers, which must be tightly sealed and properly labelled. Avoid dust formation.

7. Handling and Storage

Handling

Avoid dust formation and ignition sources. Ensure good local exhaust ventilation. Do not eat, drink or smoke at the workplace.

Storage

Keep away from food and drink. Store in the original container securely closed.

Protect from light and heat. Danger! Explosion risk. Risk of explosion if an air-dust mixture forms. Avoid creating dusty conditions. If container is larger than 2000 liter in volume, or when flammable solvents are present inert container or use a system otherwise designed to prevent or contain an explosion -- seek expert advice.

8. Exposure Controls / Personal Protection

Exposure limit(s)

10 mg/m³

Exposure limit for inhalable dust.

Technical measures/Precautions

Exposure limit(s) should be monitored using suitable analytical equipments.

Respiratory protection

Effective dust mask.

Hand protection

Protective gloves

Eye protection

Suitable goggles or face protection

Skin and body protection

Working clothes , Closed footwear

9. Physical and Chemical Properties

Form powder

Form crystalline

Color white to off-white

Odor typical

Melting/freezing temperature 45 - 49 °C

Boiling point/range > 225 °C

Relative density 20 °C 1.17 g/cm³

Flash point > 150 °C DIN 51584

Flammability not tested

Ignition Temperature 420 °C BAM

Oxidising properties not tested

Self-ignition temperature not tested

Water solubility 20 °C < 0.01 %

Solubility not tested

Vapour pressure 25 °C 0.02 Pa

Partition coefficient; Log Pow 20 °C 2.81

pH-value 1 % suspension in water 20 – 25°C 5.7

Explosive properties not tested

Evaporation rate not tested

Vapour density not tested

10. Stability and Reactivity

Decomposition temperature > 300 °C

Conditions to avoid Static discharges.

Materials to avoid Strong acids, strong bases and strong oxidising agents.

Hazardous decomposition products Oxides of carbon, Toxic gases/vapours

11. Toxicological Information

Acute oral toxicity

Rat

LD₅₀ > 2000 mg/kg

Acute dermal toxicity

Rat

LD₅₀ > 2000 mg/kg

Acute Inhalation Toxicity

Rat 4 h

LC₅₀ > 1000 mg/m³

Acute eye irritation/corrosion

Rabbit

not irritant

Acute dermal**irritation/corrosion**

Rabbit

not irritant EPA-Guideline

Acute skin sensitisation

Guinea pig

not sensitising OECD 406

12. Ecological Information**Acute toxicity to fish**

Zebra fish (Brachydanio rerio) 96 h

LC50 24 mg/l EEC C 1

Acute toxicity to daphnia

Daphnia magna 24 h

EC50 105 mg/l EEC C 2

Acute toxicity to bacteria

Sewage sludge 3 h

IC50 > 100 mg/l

Acute toxicity to algae

not tested

Biodegradability

Readily biodegradable EEC C 5

Ecotoxic effects

Do not discharge product uncontrolled into the environment.

13. Disposal Considerations**Waste from residues / unused products**

Residual chemical should be disposed by incineration or by other modes of disposal in compliance with local legislation.

Contaminated packaging

Contaminated packaging material should be treated equivalent to residual chemical. Clean packaging material should be subjected to waste management schemes (recovery recycling, reuse) according to local legislation.

14. Transport Information

Flash point > 150 °C

ADR/RID Class: Free

IMO Class: Free

ICAO Class: Free

15. Regulatory Information

Classification: Classification not required

EC Number 213-426-9

16. Other Information

R-phrases from chapter 2 -

Essential changes Section 1 ; Section 9 ; Section 11 ; Section 12

Important

THIS MATERIAL IS NOT INTENDED FOR USE IN PRODUCTS FOR WHICH PROLONGED CONTACT WITH MUCOUS MEMBRANES, BODY FLUIDS OR ABRADED SKIN, OR IMPLANTATION WITHIN THE HUMAN BODY, IS SPECIFICALLY INTENDED, UNLESS THE FINISHED PRODUCT HAS BEEN TESTED IN ACCORDANCE WITH NATIONALLY AND INTERNATIONALLY APPLICABLE SAFETY TESTING REQUIREMENTS. BECAUSE OF THE WIDE RANGE OF SUCH POTENTIAL USES, WE ARE NOT ABLE TO RECOMMEND THIS MATERIAL AS SAFE AND EFFECTIVE FOR SUCH USES AND ASSUMES NO LIABILITY FOR SUCH USES.