CHEMICALS, INC.

SHI LILIN L	: Identification of the substance/mixture and of the company/ur	ndertakina
		ιαεπακιής
1.1 Product ide	ntifier	
	l1bS)-2,6-Bis(3,5-dimethylphenyl)-4-hydroxy-4-oxide-dinaphtho[2,	,1-d:1',2'-f][1,3,.
	ioxaphosphepin	
Item number:	15-1369	
CAS Number:		
1170736-59-0		
	entified uses of the substance or mixture and uses advised against	
No further rele	vant information available.	
	he supplier of the safety data sheet	
Manufacturer/		
Strem Chemica 7 Mulliken Way	,	
NEWBURYPOI		
USA		
info@strem.cor	n	
•	nation obtainable from: Technical Department	
	telephone number:	
	CHEMTREC: + 1 (800) 424-9300	
During normal	opening times: +1 (978) 499-1600	
SECTION 2	: Hazards identification	
OLCHON 2		
	on of the substance or mixture according to Regulation (EC) No 1272/2008	
	according to Regulation (EC) No 1272/2008	
Classification of GHS	according to Regulation (EC) No 1272/2008	
Classification of GHS GHS Skin Irrit. 2 H3	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation.	
Classification of GHS GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation.	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation.	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elemon	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. ents	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elemont Labelling accont	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation.	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elemont Labelling accont	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. ents rding to Regulation (EC) No 1272/2008 is classified and labelled according to the CLP regulation.	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elema Labelling acco The substance i	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. ents rding to Regulation (EC) No 1272/2008 is classified and labelled according to the CLP regulation.	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elema Labelling acco The substance i	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. ents rding to Regulation (EC) No 1272/2008 is classified and labelled according to the CLP regulation.	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elema Labelling acco The substance i	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. ents rding to Regulation (EC) No 1272/2008 is classified and labelled according to the CLP regulation.	
Classification of GHS GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elemont Labelling account the substance of Hazard pictogr	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. ents rding to Regulation (EC) No 1272/2008 is classified and labelled according to the CLP regulation.	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elema Labelling acco The substance i	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. ents rding to Regulation (EC) No 1272/2008 is classified and labelled according to the CLP regulation.	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label element Labelling account the substance of Hazard pictogr GHS07 Signal word Wa	arcording to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. 835 May cause respiratory irritation. 835 Regulation (EC) No 1272/2008 85 classified and labelled according to the CLP regulation. 84 85 classified and labelled according to the CLP regulation. 85 85 classified and labelled according to the CLP regulation. 85 86 87 87 87 87 87 87 87 87 87 87 87 87 87	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elemon Labelling accon The substance i Hazard pictogr GHS07 Signal word Wa Hazard statemon	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. 835 May cause respiratory irritation. 835 Cause respiratory irritation. 836 Cause respiratory irritation. 837 Cause respiratory irritation. 838 Cause respiratory irritation. 839 Cause respiratory irritation. 835 May cause respiratory irritation. 836 May cause respiratory irritation. 837 May cause respiratory irritation. 837 May cause respiratory irritation. 838 May cause respiratory irritation. 838 May cause respiratory irritation. 839 May cause respiratory irritation. 830 May cause respiratory irritation. 839 May	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elemon Labelling accon The substance in Hazard pictogr GHS07 Signal word Wa Hazard statemon Hazard statemon	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. 835 May cause respiratory irritation. 836 May cause respiratory irritation. 837 May cause respiratory irritation. 838 Series and cause respiratory irritation. 838 Series and Cause respiratory irritation. 839 May cause respiratory irritation. 830 May cause respiratory irritation. 831 May cause respiratory irritation. 832 May cause respiratory irritation. 832 May cause respiratory irritation. 833 May cause respiratory irritation. 835 May cause respiratory irritation. 835 May cause respiratory irritation. 836 May cause respiratory irritation. 837 May cause respiratory irritation. 838 May cause respiratory irritation. 838 May cause respiratory irritation. 839 May cause respiratory irritation. 839 May cause respiratory irritation. 839 May cause respiratory irritation. 830 May cause respirator	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elemon Labelling account the substance of Hazard pictogr GHS07 Signal word Wa Hazard statemon H315 Causes so H319 Causes so	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. 835 May cause respiratory irritation. 84 85 classified and labelled according to the CLP regulation. 85 classified and labelled according to the CLP regulation. 85 classified and labelled according to the CLP regulation. 86 classified and labelled according to the CLP regulation. 87 87 87 87 87 87 87 87 87 87 87 87 87	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elema Labelling acco The substance i Hazard pictogr GHS07 Signal word Wa Hazard statema H315 Causes st H319 Causes so H335 May caus	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. 835 May cause respiratory irritation. ents rding to Regulation (EC) No 1272/2008 53 classified and labelled according to the CLP regulation. ams arning ents kin irritation. erious eye irritation. se respiratory irritation.	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elemon Labelling account the substance of Hazard pictogr GHS07 Signal word Wa Hazard statemon H315 Causes so H319 Causes so	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. 835 May cause respiratory irritation. ents rding to Regulation (EC) No 1272/2008 is classified and labelled according to the CLP regulation. ams arning ents kin irritation. erious eye irritation. ser respiratory irritation. set respiratory irritation. statements	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elema Labelling acco The substance i Hazard pictogr GHS07 Signal word Wa Hazard statemo H315 Causes si H319 Causes so H335 May caus Precautionary	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. 835 May cause respiratory irritation. ents rding to Regulation (EC) No 1272/2008 53 classified and labelled according to the CLP regulation. ams arning ents kin irritation. erious eye irritation. se respiratory irritation.	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elemon Labelling account the substance of Hazard pictogr GHS07 Signal word Wa Hazard statement H315 Causes st H319 Causes st H319 Causes st H335 May cause Precautionary P101 P102 P103	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. 835 May cause respiratory irritation. 835 ents 63 classified and labelled according to the CLP regulation. 84 arning 84 arning 85 classified and labelled according to the CLP regulation. 85 classified according to the CLP re	
Classification of GHS Skin Irrit. 2 H3 Eye Irrit. 2 H3 STOT SE 3 H3 2.2 Label elemo Labelling acco The substance i Hazard pictogr GHS07 Signal word Wa Hazard statement H315 Causes si H319 Causes si H319 Causes si H335 May caus Precautionary P101 P102	according to Regulation (EC) No 1272/2008 07 815 Causes skin irritation. 819 Causes serious eye irritation. 835 May cause respiratory irritation. 835 May cause respiratory irritation. 836 May cause respiratory irritation. 837 Series	(Contd. on page

Printing date 16.07.2021

Revision: 16.07.2021

Trade name: (11bS)-2,6-Bis(3,5-dimethylphenyl)-4-hydroxy-4-oxide-dinaphtho[2,1-d:1',2'-f][1,3,2] dioxaphosphepin

	(Contd. of page 1)
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P33	8 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if
	present and easy to do. Continue rinsing.
P321	Specific treatment (see on this label).
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container in accordance with local/regional/national/international
	regulations.
· 2.3 Other hazard	S .

· Results of PBT and vPvB assessment

• **PBT:** Not applicable.

· **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

· 3.1 Chemical characterisation: Substances

· CAS No. Description

1170736-59-0 (11bS)-2,6-Bis(3,5-dimethylphenyl)-4-hydroxy-4-oxidedinaphtho[2,1-d:1',2'-f][1,3,2]dioxaphosphepin

SECTION 4: First aid measures

· 4.1 Description of first aid measures

- General information: Immediately remove any clothing soiled by the product.
- After inhalation: In case of unconsciousness place patient stably in side position for transportation.
- · 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: If symptoms persist consult doctor.
- 4.2 Most important symptoms and effects, both acute and delayed No further relevant information available.
- 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

SECTION 5: Firefighting measures

· 5.1 Extinguishing media

- Suitable extinguishing agents: Use fire extinguishing methods suitable to surrounding conditions.
- 5.2 Special hazards arising from the substance or mixture No further relevant information available.
- · 5.3 Advice for firefighters
- · Protective equipment: No special measures required.

SECTION 6: Accidental release measures

· 6.1 Personal precautions, protective equipment and emergency procedures Not required.

- · 6.2 Environmental precautions: Do not allow to enter sewers/ surface or ground water.
- 6.3 Methods and material for containment and cleaning up: Dispose contaminated material as waste according to item 13. Ensure adequate ventilation.
- · 6.4 Reference to other sections

See Section 7 for information on safe handling.

(Contd. on page 3)

GB



Printing date 16.07.2021

Revision: 16.07.2021

(Contd. of page 2)

Trade name: (11bS)-2,6-Bis(3,5-dimethylphenyl)-4-hydroxy-4-oxide-dinaphtho[2,1-d:1',2'-f][1,3,2] dioxaphosphepin

See Section 8 for information on personal protection equipment. See Section 13 for disposal information.

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling Ensure good ventilation/exhaustion at the workplace.
- Information about fire and explosion protection: No special measures required.
- · 7.2 Conditions for safe storage, including any incompatibilities
- · Storage:
- · Requirements to be met by storerooms and receptacles: No special requirements.
- · Information about storage in one common storage facility: Not required.
- Further information about storage conditions: Keep container tightly sealed.
- · 7.3 Specific end use(s) No further relevant information available.

SECTION 8: Exposure controls/personal protection

• Additional information about design of technical facilities: No further data; see item 7.

- · 8.1 Control parameters
- · Ingredients with limit values that require monitoring at the workplace: Not required.
- Additional information: The lists valid during the making were used as basis.
- · 8.2 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 and skin.

· Respiratory protection:

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

• Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation • Material of gloves

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.

(Contd. on page 4)

GB

Printing date 16.07.2021

CHEMICALS, INC.

Г

Revision: 16.07.2021

dioxaphosphepin		
Eye protection:		(Contd. of pag
Tightly sealed goggles		
Tighniy sealed goggies		
9.1 Information on basic physical and c	hemical properties	
General Information		
· Appearance: Form:	Powder	
Form: Colour:	Light yellow	
· Odour:	Characteristic	
Odour threshold:	Not determined.	
· pH-value:	Not applicable.	
Change in condition		
Melting point/freezing point:	Undetermined.	
Initial boiling point and boiling range		
· Flash point:	Not applicable.	
· Flammability (solid, gas):	Not determined.	
Ignition temperature:		
Decomposition temperature:	Not determined.	
Auto-ignition temperature:	Not determined.	
Explosive properties:	Product does not present an explosion hazard.	
Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
· Vapour pressure:	Not applicable.	
Density:	Not determined.	
Relative density	Not determined.	
· Vapour density	Not applicable.	
• Evaporation rate	Not applicable.	
Solubility in / Miscibility with		
water:	Insoluble.	
Partition coefficient: n-octanol/water:	Not determined.	
· Viscosity:		
Dynamic:	Not applicable.	
Kinematic:	Not applicable.	
Solvent content:		
Organic solvents:	0.0 %	
VOC (EC)	0.00 %	
• 9.2 Other information	<i>No further relevant information available.</i>	

SECTION 10: Stability and reactivity

· 10.1 Reactivity No further relevant information available.

Printing date 16.07.2021

Revision: 16.07.2021

Trade name: (11bS)-2,6-Bis(3,5-dimethylphenyl)-4-hydroxy-4-oxide-dinaphtho[2,1-d:1',2'-f][1,3,2] dioxaphosphepin

(Contd. of page 4)

- · 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- \cdot 10.3 Possibility of hazardous reactions No dangerous reactions known.
- 10.4 Conditions to avoid No further relevant information available.
- \cdot 10.5 Incompatible materials: No further relevant information available.
- 10.6 Hazardous decomposition products: No dangerous decomposition products known.

SECTION 11: Toxicological information

- · 11.1 Information on toxicological effects
- Acute toxicity Based on available data, the classification criteria are not met.
- · Primary irritant effect:
- · Skin corrosion/irritation
- Causes skin irritation.
- Serious eye damage/irritation
- Causes serious eye irritation.
- · Respiratory or skin sensitisation Based on available data, the classification criteria are not met.
- · CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)
- · Germ cell mutagenicity Based on available data, the classification criteria are not met.
- · Carcinogenicity Based on available data, the classification criteria are not met.
- Reproductive toxicity Based on available data, the classification criteria are not met.
- · STOT-single exposure
- May cause respiratory irritation.
- STOT-repeated exposure Based on available data, the classification criteria are not met.
- Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- · 12.1 Toxicity
- Aquatic toxicity: No further relevant information available.
- 12.2 Persistence and degradability No further relevant information available.
- · 12.3 Bioaccumulative potential No further relevant information available.
- · 12.4 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. • 12.5 Results of PBT and vPvB assessment

- · **PBT:** Not applicable.
- **vPvB:** Not applicable.
- · 12.6 Other adverse effects No further relevant information available.

SECTION 13: Disposal considerations

- · 13.1 Waste treatment methods
- · Recommendation

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

(Contd. on page 6)

GB -

Printing date 16.07.2021

Revision: 16.07.2021

Trade name: (11bS)-2,6-Bis(3,5-dimethylphenyl)-4-hydroxy-4-oxide-dinaphtho[2,1-d:1',2'-f][1,3,2] dioxaphosphepin

(Contd. of page 5)

· Uncleaned packaging:

• Recommendation: Disposal must be made according to official regulations.

· 14.1 UN-Number		
· 14.1 ON-Number · ADR, ADN, IMDG, IATA	not regulated	
· 14.2 UN proper shipping name · ADR, ADN, IMDG, IATA	not regulated	
· 14.3 Transport hazard class(es)		
ADR, ADN, IMDG, IATA		
· Class	not regulated	
· 14.4 Packing group		
· ADR, IMDG, IATA	not regulated	
14.5 Environmental hazards:	Not applicable.	
· 14.6 Special precautions for user	Not applicable.	
14.7 Transport in bulk according to Ann	nex II of	
Marpol and the IBC Code	Not applicable.	
· UN ''Model Regulation'':	not regulated	

SECTION 15: Regulatory information

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

· Directive 2012/18/EU

· Named dangerous substances - ANNEX I Substance is not listed.

· National regulations:

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

SECTION 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: Technical Department.

· Contact: Technical Director

· 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

- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals CAS: Chemical Abstracts Service (division of the American Chemical Society)
- VOC: Volatile Organic Compounds (USA, EU)
- PBT: Persistent, Bioaccumulative and Toxic
- *vPvB: very Persistent and very Bioaccumulative*

Skin Irrit. 2: Skin corrosion/irritation – Category 2

(Contd. on page 7)

GB -



Printing date 16.07.2021

Revision: 16.07.2021

Trade name: (11bS)-2,6-Bis(3,5-dimethylphenyl)-4-hydroxy-4-oxide-dinaphtho[2,1-d:1',2'-f][1,3,2] dioxaphosphepin

(Contd. of page 6)

GB

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2 STOT SE 3: Specific target organ toxicity (single exposure) – Category 3