Printing date 16.07.2021

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SECTION 1: Identification of the substance/mixture and of the company/undertaking
· 1.1 Product identifier
Trade name: (3aR,8aR)-(-)-4,4,8,8-Tetrakis(3,5-dimethylphenyl)tetrahydro-2,2-dimethyl-6-phenyl-1,3-
dioxolo[4,5-e]dioxaphosphepin

- **Item number:** 15-1511
- · CAS Number:
- 1019840-96-0
- · 1.2 Relevant identified uses of the substance or mixture and uses advised against No further relevant information available.
- · 1.3 Details of the supplier of the safety data sheet
- · Manufacturer/Supplier: Strem Chemicals, Inc. 7 Mulliken Way NEWBURYPORT, MA 01950 USA info@strem.com
- · Further information obtainable from: Technical Department
- · 1.4 Emergency telephone number: EMERGENCY: CHEMTREC: +1 (800) 424-9300 During normal opening times: +1 (978) 499-1600

SECTION 2: Hazards identification

· 2.1 Classification of the substance or mixture · Classification according to Regulation (EC) No 1272/2008

Skin Irrit. 2 H315 Causes skin irritation. Eye Irrit. 2 H319 Causes serious eye irritation. STOT SE 3 H335 May cause respiratory irritation.

· 2.2 Label elements

· Labelling according to Regulation (EC) No 1272/2008 The substance is classified and labelled according to the CLP regulation. · Hazard pictograms



· Signal word Warning

```
· Hazard-determining components of labelling:
(3aR, 8aR)-(-)-4,4,8,8-Tetrakis(3,5-dimethylphenyl)tetrahydro-2,2-dimethyl-6-phenyl-1,3-dioxolo[4,5-e]
dioxaphosphepin
· Hazard statements
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
· Precautionary statements
P101
                   If medical advice is needed, have product container or label at hand.
```

HEMICALS, INC.

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 16.07.2021

Revision: 16.07.2021

Trade name: (3aR,8aR)-(-)-4,4,8,8-Tetrakis(3,5-dimethylphenyl)tetrahydro-2,2-dimethyl-6-phenyl-1,3-dioxolo[4,5-e]dioxaphosphepin

	(Contd. of page 1)
P102	Keep out of reach of children.
P103	Read label before use.
P262	Do not get in eyes, on skin, or on clothing.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P33	28 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if
	present and easy to do. Continue rinsing.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
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 hazards	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

1019840-96-0 (JaR,8aR)-(-)-4,4,8,8-Tetrakis(3,5-dimethylphenyl) tetrahydro-2,2-dimethyl-6-phenyl-1,3-dioxolo[4,5e]dioxaphosphepin

SECTION 4: First aid measures

· 4.1 Description of first aid measures

• 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: No special measures required.
- 6.3 Methods and material for containment and cleaning up:
- Dispose contaminated material as waste according to item 13.

(Contd. on page 3)

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Trade name: (3aR,8aR)-(-)-4,4,8,8-Tetrakis(3,5-dimethylphenyl)tetrahydro-2,2-dimethyl-6-phenyl-1,3-dioxolo[4,5e]dioxaphosphepin

(Contd. of page 2)

Ensure adequate ventilation.

- · 6.4 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.

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling No special precautions are necessary if used correctly.
- 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.

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		(Contd. of pag
Eye protection:		(Conta. of page
Tightly sealed goggles		
9.1 Information on basic physical and c General Information	hemical properties	
• Appearance:		
Form:	Solid	
Colour:	White	
· Odour:	Odourless	
Odour threshold:	Not determined.	
pH-value:	Not applicable.	
Change in condition		
Melting point/freezing point:	Undetermined.	
Initial boiling point and boiling range	: Undetermined.	
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	Incolubia	
water:	Insoluble.	
Partition coefficient: n-octanol/water:	Not determined.	
Viscosity:	Not amplicable	
Dynamic:	Not applicable.	
Kinematic:	Not applicable.	
Solvent content:	0.0.0/	
Organic solvents:		
VOC (EC)	0.00 %	
Solids content:	100.0 %	
9.2 Other information	No further relevant information available.	

(Contd. on page 5)

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HEMICALS, INC.

Safety data sheet according to 1907/2006/EC, Article 31

Printing date 16.07.2021

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Trade name: (3aR,8aR)-(-)-4,4,8,8-Tetrakis(3,5-dimethylphenyl)tetrahydro-2,2-dimethyl-6-phenyl-1,3-dioxolo[4,5e]dioxaphosphepin

(Contd. of page 4)

SECTION 10: Stability and reactivity

- · 10.1 Reactivity No further relevant information available.
- · 10.2 Chemical stability
- Thermal decomposition / conditions to be avoided: No decomposition if used according to specifications.
- 10.3 Possibility of hazardous reactions No dangerous reactions known.
- 10.4 Conditions to avoid No further relevant information available.
- 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.
- \cdot 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.
- $\cdot \textit{Carcinogenicity} \textit{ Based on available data, the classification criteria are not met.}$
- Reproductive toxicity Based on available data, the classification criteria are not met.
- · STOT-single exposure
- May cause respiratory irritation.
- $\cdot \textit{STOT-repeated exposure} \textit{ Based on available data, the classification criteria are not met.}$
- Aspiration hazard Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- · 12.1 Toxicity
- \cdot 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: Not known to be hazardous to water.
- · 12.5 Results of PBT and vPvB assessment
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- \cdot 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.

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(Contd. of page 5)

· Uncleaned packaging:

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

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.

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