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US

1 Identification

- · Product name
- · Trade name: Carbonyl(acetylacetonato)(triphenylphosphine)rhodium(I), 99%
- Item number: 45-0355
- \cdot Details of the supplier of the safety data sheet
- Manufacturer/Supplier: Strem Chemicals, Inc. 7 Mulliken Way NEWBURYPORT, MA 01950 USA info@strem.com
- Information department: Technical Department
 Emergency telephone number: EMERGENCY: CHEMTREC: +1 (800) 424-9300 During normal opening times: +1 (978) 499-1600

2 Hazard(s) identification

· Classification of the substance or mixture

GHS07

Skin Irrit. 2H315Causes skin irritation.STOT SE 3H335May cause respiratory irritation.Eye Irrit. 2BH320Causes eye irritation.

· Label elements

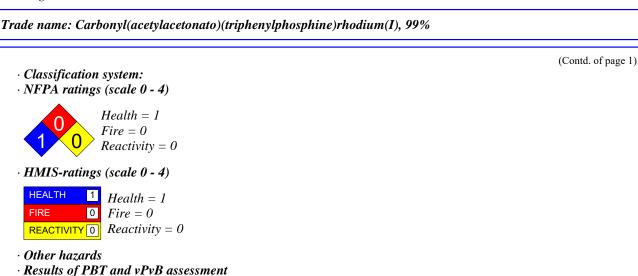
• *GHS label elements* The product is classified and labeled according to the Globally Harmonized System (GHS). • *Hazard pictograms*



011007	
· Signal word Wa	rning
· Hazard stateme	nts
H315+H320 Ca	uses skin and eye irritation.
Н335 Ма	ty cause respiratory irritation.
· Precautionary s	
P262	Do not get in eyes, on skin, or on clothing.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P3	38 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.
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- · **PBT:** Not applicable.
- · vPvB: Not applicable.

3 Composition/information on ingredients

- · Chemical characterization: Mixtures
- · Description: Mixture of the substances listed below with nonhazardous additions.
- · Dangerous components: not applicable

4 First-aid measures

· 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.
- · 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:
- CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. • 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 Not required.

· Environmental precautions: No special measures required.

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- Methods and material for containment and cleaning up: Dispose contaminated material as waste according to item 13. Ensure adequate ventilation.
 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:

None of the ingredients is listed.

· PAC-2:

None of the ingredients is listed.

• PAC-3:

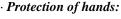
None of the ingredients is listed.

7 Handling and storage

- · Handling:
- · Precautions for safe handling No special precautions are necessary if used correctly.
- · Information about protection against explosions and fires: No special measures required.
- \cdot 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 receptacle tightly sealed.
- 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: The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- 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 and skin.
- Avoia contact with the eyes and skin. Breathing equipment: A NIOSH approved re
- Breathing equipment: A NIOSH approved respirator in accordance with 29 CFR 1910.134.





Protective gloves

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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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. • 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

9 Physical and chemical properties

General Information		
Appearance: Form:	Solid	
Form: Color:	Solia Yellow	
Odor:	Odorless	
Odor threshold:	Not determined.	
pH-value:	Not applicable.	
Change in condition		
Melting point/Melting range:	Undetermined.	
Boiling point/Boiling range:	0 °C (32 °F)	
Flash point:	0 °C (32 °F)	
Flammability (solid, gaseous):	Not determined.	
Ignition temperature:		
Decomposition temperature:	Not determined.	
Auto igniting:	Product is not selfigniting.	
Danger of explosion:	Product does not present an explosion hazard.	
Explosion limits:		
Lower:	Not determined.	
Upper:	Not determined.	
Vapor pressure:	Not applicable.	
Density:	Not determined.	
Relative density	Not determined.	
Vapor density	Not applicable.	
Evaporation rate	Not applicable.	



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· Solubility in / Miscibility with		
Water:	Insoluble.	
· Partition coefficient (n-octan	ol/water): Not determined.	
· Viscosity:		
Dynamic:	Not applicable.	
Kinematic:	Not applicable.	
· Solvent content:		
Organic solvents:	0.0 %	
VOC content:	0.0 g/l / 0.00 lb/gl	
• 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:
- \cdot 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.

12 Ecological information

· Toxicity

- Aquatic toxicity: No further relevant information available.
- · Persistence and degradability No further relevant information available.

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Trade name: Carbonyl(acetylacetonato)(triphenylphosphine)rhodium(I), 99%

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- · Behavior in environmental systems:
- · Bioaccumulative potential No further relevant information available.
- · Mobility in soil No further relevant information available.
- · Additional ecological information:
- · General notes: Not known to be hazardous to 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.

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

4 Transport information		
· UN-Number · DOT, ADN, IMDG, IATA	not regulated	
· UN proper shipping name · DOT, ADN, IMDG, IATA	not regulated	
· Transport hazard class(es)		
· DOT, ADN, IMDG, IATA · Class	not regulated	
· Packing group · DOT, IMDG, IATA	not regulated	
· Environmental hazards: · Marine pollutant:	No	
· Special precautions for user	Not applicable.	
• Transport in bulk according to Annex . MARPOL73/78 and the IBC Code	II of Not applicable.	
· UN ''Model Regulation'':	not regulated	

15 Regulatory information

- \cdot Safety, health and environmental regulations/legislation specific for the substance or mixture \cdot Sara
- · Section 355 (extremely hazardous substances):
- None of the ingredients is listed.
- · Section 313 (Specific toxic chemical listings):
- None of the ingredients is listed.

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· Proposition 65

· TSCA (Toxic Substances Control Act): None of the ingredients is listed.

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	wn to cause cancer:
None of the ingr	edients is listed.
· Chemicals know	vn to cause reproductive toxicity for females:
None of the ingr	edients is listed.
· Chemicals know	vn to cause reproductive toxicity for males:
None of the ingr	edients is listed.
· Chemicals know	vn to cause developmental toxicity:
None of the ingr	edients is listed.
· Carcinogenic ca	itegories
· EPA (Environm	nental Protection Agency)
None of the ingr	edients is listed.
· TLV (Threshold	l Limit Value established by ACGIH)
None of the ingr	edients is listed.
· NIOSH-Ca (Na	tional Institute for Occupational Safety and Health)
None of the ingr	edients is listed.
	nts uuses skin and eye irritation. 1y cause respiratory irritation.
P262	Do not get in eyes, on skin, or on clothing.
P280	
	Wear protective gloves/protective clothing/eye protection/face protection. 338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if prese
P304+P340	Wear protective gloves/protective clothing/eye protection/face protection. 338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if prese and easy to do. Continue rinsing. IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P304+P340 P403+P233 P501	 Wear protective gloves/protective clothing/eye protection/face protection. 838 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if prese and easy to do. Continue rinsing. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Store in a well-ventilated place. Keep container tightly closed. Dispose of contents/container in accordance with local/regional/national/internation
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· 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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
VOC: Volatile Organic Compounds (USA, EU)
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
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2B: Serious eye damage/eye irritation – Category 2B
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3
- US