

Safety Data Sheet per OSHA HazCom 2012

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1 Identification

Product identifier

Product name: 1,3-Bis(diphenylphosphino)propane nickel (II)chloride

Stock number: B21015

CAS Number: 15629-92-2

Relevant identified uses of the substance or mixture and uses advised against.

Identified use: SU24 Scientific research and development

Details of the supplier of the safety data sheet Manufacturer/Supplier:
Alfa Aesar
Thermo Fisher Scientific Chemicals, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Tel: 800-343-0660
Fax: 800-322-4757
Email: tech@alfa.com

Email: tech@alfa.com www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency telephone number: During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-0789.

2 Hazard(s) identification

Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)



GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.



GHS08 Health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS07

Skin Irrit. 2 H315 Causes skin irritation. Eye Irrit. 2A H319 Causes serious eye irritation.

H317 May cause an allergic skin reaction. Skin Sens. 1

STOT SE 3 H335 May cause respiratory irritation.

Hazards not otherwise classified No information known.

Label elements

GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms





GHS06 GHS08

Signal word Danger Hazard statements

H301 Toxic if swallowed. H315 Causes skin irritation.

H319 Causes serious eye irritation.
H319 Causes serious eye irritation.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 May cause an allergic skin reaction.
H335 May cause respiratory irritation.

Precautionary statements

Presequence of inadequate ventilation wear respiratory protection.

P284 In case of inadequate ventilation wear respiratory protection.
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/ doctor/...
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up. Store locked up.

Dispose of contents/container in accordance with local/regional/national/international regulations.

WHMIS classification

D1B - Toxic material causing immediate and serious toxic effects

D2A - Very toxic material causing other toxic effects



Classification system HMIS ratings (scale 0-4) (Hazardous Materials Identification System)



Health (acute effects) = 2

RE I Flammability = 1

Physical Hazard = 1

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

USA

Product name: 1,3-Bis(diphenylphosphino)propane nickel (II)chloride

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3 Composition/information on ingredients

Chemical characterization: Substances CAS# Description: 15629-92-2 1,3-Bis(diphenylphosphino)propane nickel (II)chloride

4 First-aid measures

Description of first aid measures

After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.

After skin contact
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.

After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek medical treatment. 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 Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:

Phosphorus oxides Hydrogen chloride (HCI)

Carbon monoxide and carbon dioxide Metal oxide fume

Metal oxide furne
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Environmental precautions: Do not allow material to be released to the environment without proper governmental permits.

Methods and material for containment and cleaning up: Dispose of contaminated material as waste according to section 13.

Ensure adequate ventilation.

Prevention of secondary hazards: No special measures required.

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.

7 Handling and storage

Handling Precautions for safe handling

Reep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Prevent formation of dust.

Information about protection against explosions and fires: No information known.

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: Store away from oxidizing agents.

Further information about storage conditions: Keep container tightly sealed. Store in cool, dry conditions in well sealed containers.

Specific end use(s) No further relevant information available

8 Exposure controls/personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters Components with limit values that require monitoring at the workplace:

Nickel and inorganic compounds, as Nimg/m3

ACGIH TLV 1.5; A5 (metal)
0.2; A1 (insoluble compounds)
0.1; A4 (soluble compounds)
Austria Carcinogen
Denmark TWA 0.5
Finland TWA 0.1 (skin) Carcinogen
France VME 1; C3-Carcinogen
Germany Carcinogen

Carcinogen
0.005-STEL; Carcinogen (insoluble compounds)
1; 2B-Carcinogen

Austria Carcinogen
Denmark TWA 0.5
Finland TWA 0.1 (skin) Carcinogen
France VME 1; C3-Carcinogen
Germany Carcinogen
Hungary 0.005-STEL; Carcinogen
Vorea TLV 1.5
Netherlands MAC-TGG 1; Carcinogen
1 (inspection)

Norway TWA 0.05
Norway TWA 0.05
Poland TWA 0.25
Russia 0.05-STEL
Sweden NGV 0.5 (dust)
Switzerland MAK-W 0.5; Carcinogen

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Product name: 1,3-Bis(diphenylphosphino)propane nickel (II)chloride

United Kingdom TWA 0.1 USA PEL 1 **Additional information:** No data

Exposure controls Personal protective equipment

Personal protective equipment
General protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Maintain an ergonomically appropriate working environment.
Breathing equipment: Use suitable respirator when high concentrations are present.
Protection of hands:
Impervious gloves
Check protective gloves prior to each use for their proper condition.
The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer.
Eye protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties General Information

Appearance: Form:

Color: Réd

Odor: Odor threshold: Not determined Not determined

Crystalline

pH-value:

Not applicable

Change in condition

Melting point/Melting range: Boiling point/Boiling range: Sublimation temperature / start: 213 °C (415 °F) Not determined

Flash point:

Not determined Not applicable

Flammability (solid, gaseous) Ignition temperature: Decomposition temperature:

Not determined

Not determined

Auto igniting:

Danger of explosion: Explosion limits:

Not determined.

Product does not present an explosion hazard.

Not determined

Lower: Upper: Vapor pressure:

Not determined Not applicable. Not determined Not determined.

Density: Relative density

Vapor density Evaporation rate Solubility in / Miscibility with

Not applicable.

Not applicable.

Water:

Insoluble

artition coefficient (n-octanol/water): Not determined.

Viscosity:

Not applicable.

dynamic: kinematic:

Other information

Not applicable. No further relevant information available.

10 Stability and reactivity

Reactivity No information known.
Chemical stability Stable under recommended storage conditions.
Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications.
Possibility of hazardous reactions No dangerous reactions known
Conditions to avoid No further relevant information available.
Incompatible materials: Oxidizing agents
Hazardous decomposition products:
Phosphorus oxides (e.g. P2O5)
Hydrogen chloride (HCl)
Carbon monoxide and carbon dioxide
Metal oxide fume

Metal oxide fume

11 Toxicological information

Information on toxicological effects
Acute toxicity: Harmful if swallowed.
LD/LC50 values that are relevant for classification: No data
Skin irritation or corrosion: Causes skin irritation.
Eye irritation or corrosion: Causes serious eye irritation.
Sensitization:

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

Germ cell mutagenicity: No effects known.

Carcinogenicity:

ARC-1: Carcinogenic to humans: sufficient evidence of carcinogenicity.

NTP-R: Reasonably anticipated to be a carcinogen: limited evidence from studies in humans or sufficient evidence from studies in experimental animals.

ACGIH A4: Not classifiable as a human carcinogen: Inadequate data on which to classify the agent in terms of its carcinogenicity in humans and/or animals.

Reproductive toxicity: No effects known.

Reproductive toxicity: No effects known.

Specific target organ system toxicity - repeated exposure: No effects known.

Specific target organ system toxicity - single exposure: May cause respiratory irritation.

Aspiration hazard: No effects known.

Subacute to chronic toxicity:

Organic phosphorus compounds exhibit a wide range of toxicity. Most are skin and eye irritants with the more volatile also being respiratory irritants. Those exhibiting substantial water reactivity will have stronger irritating properties and may be corrosive enough to cause severe burns. Some organic phosphorus

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Product name: 1,3-Bis(diphenylphosphino)propane nickel (II)chloride

(Contd. of page 3) compounds are cholinesterase inhibitors. Symptoms associated with these include muscle twitching, convulsions, flaccid paralysis, coma, respiratory failure. They

None None

None

No

can be highly paralytic.

Nickel and nickel compounds may cause a form of dermatitis known as nickel itch. They may also cause intestinal disorders, convulsions and asphyxia. Airborne nickel contaminated dusts are regarded as carcinogenic to the respiratory tract.

Subacute to chronic toxicity: No effects known.

Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

12 Ecological information

Aquatic toxicity: No further relevant information available.

Persistence and degradability No further relevant information available.

Bioaccumulative potential No further relevant information available.

Mobility in soil No further relevant information available.

Additional ecological information:

General notes:

Do not allow material to be released to the environment without proper governmental permits.

Do not allow undiluted product or large quantities to reach ground water, water course or sewage system.

Avoid transfer into the environment.

Avoid transfer into the environment.

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 Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations.

UN-Number

Transport informationNot a hazardous material for transportation

DOT, IMDG, IATA	
UN proper shipping name DOT, IMDG, IATA	

Transport hazard class(es) DOT, ADR, IMDG, IATA

None

Packing group DOT, IMDG, IATA Environmental hazards:

Not applicable 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.

DOT

Marine Pollutant (DOT):

15 Regulatory information

Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms







Signal word Danger Hazard statements

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P405 Store locked up.
Dispose of contents/container in accordance with local/resippol/patient/file.

Dispose of contents/container in accordance with local/regional/national/international regulations.

National regulations
This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only. This product must be used by or directly under the supervision of a technically qualified individual as defined by TSCA. This product must not be used for commercial purposes or in formulations for commercial purposes.

This product contains a chemical known to the state of California to cause cancer and/or reproductive toxicity.

SARA Section 313 (specific toxic chemical listings)

15629-92-2 1,3-Bis(diphenylphosphino)propane nickel (II)chloride

California Proposition 65

Prop 65 - Chemicals known to cause cancer

15629-92-2 1,3-Bis(diphenylphosphino)propane nickel (II)chloride

Prop 65 - Developmental toxicity Substance is not listed.

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Product name: 1,3-Bis(diphenylphosphino)propane nickel (II)chloride

Prop 65 - Developmental toxicity, female Substance is not listed.
Prop 65 - Developmental toxicity, male Substance is not listed.
Information about limitation of use:
For use only by technically qualified individuals.
This product contains nickel and is subject to the reporting requirements of section 313 of the Emergency Planning and Community Right to Know act of 1986 and 40CFR372.

Other regulations, limitations and prohibitive regulations
Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed.
The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the

Market and use must be observed.
Substance is not listed.
Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed.
Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

16 Other information
Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

conformance with this Material Safety Data Sheet, or in con Department issuing SDS: Global Marketing Department Date of preparation / last revision 11/24/2015 / - Abbreviations and acronyms:

IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
HMIS: Hazardous Materials Identification System (USA)
WHMIS: Workplace Hazardous Materials Information System (Canada)
LC50: Lethal doncentration, 50 percent
LD50: Lethal donce, 50 percent
PVB: very Persistent and very Bioaccumulative
ACGIH: American Conference of Governmental Industrial Hygienists (USA)
OSHA: Occupational Safety and Health Administration (USA)
NTP: National Toxicology Program (USA)
IARC: International Agency for Research on Cancer
EPA: Environmental Protection Agency (USA)