SECTION 1. IDENTIFICATION

Product Identifier: (2N) 99% Indium Powder

Product Code: IN-M-02-P

CAS Number: 7440-74-6

Relevant identified uses of the substance: Scientific research and development

Supplier details:

American Elements
10884 Weyburn Ave.
Los Angeles, CA 90024
Tel: +1 310-208-0551
Fax: +1 310-208-0351
Emergency telephone number:
+1 800-424-9300

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008
GHS02 Flame
Flam. Sol. 2 H228 Flammable solid.
Classification according to Directive 67/548/EEC or Directive 1999/45/EC
F; Highly flammable
R11: Highly flammable.

Information concerning particular hazards for human and environment:
N/A
Hazards not otherwise classified
No data available.

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

GHS02
Signal word: Warning
Hazard statements
H228 Flammable solid.

Precautionary statements
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P240 Ground/bond container and receiving equipment.
P241 Use explosion-proof electrical/ventilating/lighting/equipment.
P370+P378 In case of fire: Use for extinction: CO2, powder or water spray.

WHMIS classification
B4 - Flammable solid

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

HEALTH
FIRE
REACTIVITY
1
2
1
Health (acute effects) = 1
Flammability = 2
Physical Hazard = 1

Other hazards
Results of PBT and vPvB assessment:
PBT: N/A.
vPvB: N/A.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substances
CAS No. / Substance Name:
7440-74-6 Indium
Identification number(s):
EC number: 231-180-0

SECTION 4. FIRST AID MEASURES

Description of first aid measures
If inhaled:
Supply fresh air. If not breathing, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
In case of skin contact:
Immediately wash with soap and water; rinse thoroughly.
Seek immediate medical advice.
In case of eye contact:
Rinse opened eye for several minutes under running water. Consult a physician.
In case of exposure:
Seek medical treatment.
Information for doctor
Most important symptoms and effects, both acute and delayed
No information available.
SECTION 5. FIREFIGHTING MEASURES

Extinguishing media
Suitable extinguishing media
Special powder for metal fires. Do not use water.
For safety reasons unsuitable extinguishing media
Water
Special hazards arising from the substance or mixture
If this product is involved in a fire, the following can be released:
Indium oxide
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Keep away from ignition sources
Environmental precautions:
Do not allow material to be released to the environment without official permits.
Do not allow product to reach sewage system or any water course.
Do not allow to penetrate the ground/soil.
Methods and material for containment and cleanup:
Keep away from ignition sources.
Ensure adequate ventilation.
Prevention of secondary hazards:
Keep away from ignition sources.
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

Handling
Precautions for safe handling
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure adequate ventilation.
Information about protection against explosions and fires:
Protect against electrostatic charges.
Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and receptacles:
Store in a cool location.
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 information available.

SECTION 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:
7440-74-6 Indium (100.0%)
REL (USA) Long-term value: 0.1 mg/m³ as In
TLV (USA) Long-term value: 0.1 mg/m³ as In
EL (Canada) Long-term value: 0.1 mg/m³
EV (Canada) Long-term value: 0.1 mg/m³ as indium
Additional information: No data

Exposure controls
Personal protective equipment
Follow typical general protective and industrial hygiene measures for handling chemicals.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.

Breathing equipment:
Use suitable respirator when high concentrations are present.
Recommended filter device for short term use:
Use a respirator with type P100 (USA) or P3 (EN 143) cartridges as a backup to engineering controls.
Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards.
Protection of hands: Impervious gloves
Inspect gloves prior to use.
Suitability of gloves should be determined both by material and quality, the latter of which may vary by manufacturer.
Material of gloves
Nitrile rubber, NBR
Penetration time of glove material (in minutes)
480
Glove thickness
0.11 mm
Eye protection: Safety glasses
Body protection: Protective work clothing.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties
Appearance:
Form: Powder  
Color: Silvery-white  
Odor: Odorless  
Odor threshold: No data available.  
pH: N/A.  
Melting point/range: 156.6 °C (314 °F)  
Boiling point/range: 2072 °C (3762 °F)  
Sublimation temperature / start: No data available.  
Flammability (solid, gas): Highly flammable.  
Ignition temperature: No data available.  
Decomposition temperature: No data available.  
Auto igniting: No data available.  
Danger of explosion: No data available.  
Explosion limits:  
Lower: No data available.  
Upper: No data available.  
Vapor pressure at 20 °C (68 °F): 0 hPa  
Density at 20 °C (68 °F): 7.31 g/cm³ (61.002 lbs/gal)  
Relative density: No data available.  
Vapor density: N/A.  
Evaporation rate: N/A.  
Solubility in Water (H₂O): No data available.  
Partition coefficient (n-octanol/water): No data available.  
Viscosity:  
Dynamic: N/A.  
Kinematic: N/A.  
Other information  
No further relevant information available

SECTION 10. STABILITY AND REACTIVITY

Reactivity  
No data available.  
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 information available.  
Incompatible materials:  
Oxidizing agents  
Hazardous decomposition products:  
Indium oxide

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects  
Acute toxicity:  
The Registry of Toxic Effects of Chemical Substances (RTECS) contains acute toxicity data for this
物质。
LD/LC50 值用于分类：无数据
皮肤刺激或腐蚀：可能引起刺激
眼刺激或腐蚀：可能引起刺激
接触性皮炎：未见致敏性
细胞毒性：
无分类数据表明该物质的致癌性。EPA、IARC、NTP、OSHA 或 ACGIH 无相关数据。
生殖毒性：N/A
特定目标器官系统毒性 - 重复暴露：N/A
特定目标器官系统毒性 - 单次暴露：N/A
吸入危险：N/A
亚急性和慢性毒性：N/A
额外毒性学信息：
据我们所知，该物质的急性与慢性毒性尚未完全了解。

SECION 12. ECOLOGICAL INFORMATION

毒性
水生毒性：
无数据。
持久性和生物降解性：
无数据。
生物累积性潜能：
无数据。
土壤移动性：
无数据。
额外生态信息：
通用注释：
不许将物质释放到环境，除非获得官方许可。
不许将未经稀释的产品或大量物质排入地下水、水道或下水道系统。
避免将物质进入环境。
PBT 和 vPvB 评估结果：
PBT：N/A。
vPvB：N/A。
其他不良影响：
无数据。

SECTION 13. DISPOSAL CONSIDERATIONS

废物处理方法
建议：
咨询国家、地方或国家的法规以确保适当的处理。
未清洁包装：
建议：
按照官方规定处理。
SECTION 14. TRANSPORT INFORMATION

UN-Number
DOT, IMDG, IATA
UN3089

UN proper shipping name
DOT
Metal powders, flammable, n.o.s. (Indium powder)
IMDG, IATA
METAL POWDER, FLAMMABLE, N.O.S. (Indium powder)

Transport hazard class(es)
DOT
Class
4.1 Flammable solids, self-reactive substances and solid desensitised explosives.
Label
4.1
Class
4.1 (F3) Flammable solids, self-reactive substances and solid desensitised explosives
Label
4.1
IMDG, IATA
Class
4.1 Flammable solids, self-reactive substances and solid desensitised explosives.
Label
4.1
Packing group
DOT, IMDG, IATA
III

Environmental hazards: N/A.

Special precautions for user
Warning: Flammable solids, self-reactive substances and solid desensitised explosives
EMS Number:
F-G,S-G

Segregation groups
Heavy metals and their salts (including their organometallic compounds), powdered metals
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
N/A.

Transport/Additional information:
DOT
Marine Pollutant (DOT):
No
UN "Model Regulation":
UN3089, Metal powders, flammable, n.o.s. (Indium powder), 4.1, III

SECTION 15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture
National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic
Substances Control Act Chemical substance Inventory.
All components of this product are listed on the Canadian Domestic Substances List (DSL).
SARA Section 313 (specific toxic chemical listings)
Substance is not listed.
California Proposition 65
Prop 65 - Chemicals known to cause cancer
Substance is not listed.
Prop 65 - Developmental toxicity
Substance is not listed.
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.
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.
REACH - Pre-registered substances
Substance is listed.
Chemical safety assessment:
A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH). The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. American Elements shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. COPYRIGHT 1997-2019 AMERICAN ELEMENTS. LICENSED GRANTED TO MAKE UNLIMITED PAPER COPIES FOR INTERNAL USE ONLY.