



Pony Testing International Group

Report No.: 10053121-052

# MSDS Report

Sample Description AD-946 Ammonia Decomposition Catalyst

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Applicant Pingxiang Lihua Packing Co., Ltd

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Pony Testing International Group  
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## Material Safety Data Sheet

### AD-946 Ammonia Decomposition Catalyst

#### Section 1 - Chemical Product and Company Identification

Sample Name: AD-946 Ammonia Decomposition Catalyst

Company Identification: Pingxiang Lihua Packing Co., Ltd

Address: West Industrial Park, Economic Development Zone, Pingxiang,  
Jiangxi, China

Post Code: 337055

TEL: +86 799 6819568

FAX: +86 799 6829328

E-mail: pxlihua@189.cn

#### Section 2 - Composition, Information on Ingredients

General Chemical Description: This chemical product is a mixture.

Physical State: Cylindrical particles.

Color: Grey-black.

Chemical Name	Molecular Formula	Percent (by weight)	CAS No.	EC#
Nickel (Ni)	Ni	≥6%	7440-02-0	231-111-4
Magnesium oxide	MgO	≥80%	1309-48-4	215-171-9
Calcium oxide	CaO	1-3%	1305-78-8	215-138-9
Aluminum oxide	Al <sub>2</sub> O <sub>3</sub>	1-3%	1344-28-1	215-691-6
Silicon dioxide	SiO <sub>2</sub>	3-5%	7631-86-9	231-545-4
Titanium dioxide	TiO <sub>2</sub>	1-2%	13463-67-7	236-675-5
Ferric oxide	Fe <sub>2</sub> O <sub>3</sub>	≤1.5%	1309-37-1	215-168-2

## Section 3 - Hazards Identification

### EMERGENCY OVERVIEW

**Caution!** If contact or inhale the dust/fume of this product may cause eyes, skin, digestive tract or respiratory system irritation. This product contains nickel which is possibly carcinogenic.

UN Hazard Class: None.

Target Organs: Eye, skin, digestive tract, respiratory system.

Potential Health Effects:

- Ø **Eye:** Contact may cause eyes mechanical irritation, redness, and pain.
- Ø **Skin:** Contact may cause skin sensitization, an allergic reaction, which becomes evident upon re-exposure to this material.
- Ø **Ingestion:** Ingestion of this material is unlikely. May cause digestive tract irritation with nausea, vomiting and diarrhea.
- Ø **Inhalation:** Inhalation of dust may cause respiratory tract irritation with cough, shortness of breath. Inhalation of fumes may cause metal fume fever (symptom may contain chills, fever, and respiratory tract irritation) or pneumonitis. Repeated or prolonged inhalation exposure to Nickel may cause asthma. Lungs may be affected by repeated or prolonged exposure to Nickel. The symptoms of asthma often do not become manifest until a few hours have passed and they are aggravated by physical effort.

## Section 4 - First Aid Measures

**Eyes:** In case of contact, immediately flush eyes with water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses if easily possible. Get medical aid if symptoms occur.

**Skin:** In case of contact, immediately flush skin with plenty of soap and water. Remove contaminated clothing and shoes. Get medical aid if symptoms occur. Wash clothing before reuse.

**Inhalation:** If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear. The symptoms of asthma often do not become manifest until a few hours have passed and they are aggravated by physical effort. Rest and medical observation are therefore essential. Anyone who has shown symptoms of asthma due to Nickel should avoid all further contact with this product.

**Ingestion:** If swallowed, induce vomiting under the guidance of professional doctors. If the injured is fully conscious: wash mouth out with water, and then give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

## Section 5 - Fire Fighting Measures

**General Information:** The product is not flammable. As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

**Extinguishing Media:** Dry sand, chemical powder, foam.

## Section 6 - Accidental Release Measures

**General Information:** Avoid breathing dust/fume. Review Section 5 and Section 7 sections before proceeding with clean-up. Use proper personal protective equipment as indicated in Section 8.

**Spills/Leaks:** Collect up, and then place into a suitable container for disposal or recycle. Avoid generating dusty conditions. Avoid walking through spilled product as it may be slippery. Avoid dispersal of spilled material and runoff and contact with soil, water ways, drains and sewers.

## Section 7 - Handling and Storage

**General Information:** This product should be stored, handled and used in accordance with good industrial hygiene practices and in conformity with any legal regulation. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.

**Storage:** Keep container tightly closed when not in use. Store in a cool, dry, well-ventilated area away from incompatible substances (see section 10), sources of ignition or heat, food, drink and moisture. Protect from humidity and water. Inspect regularly for deficiencies such as damage or leaks. Treat carefully, avoid physical damage to containers. The storage area should be equipped with the corresponding species and quantity of fire equipment and leakage emergency equipment. Use appropriate containment to avoid environmental contamination.

**Handling:** Ensure good local exhaust ventilation. Handle and open container with care. Keep container tightly closed and away from incompatible substances (see section 10), sources of ignition or heat, food, drink and moisture. Protect from humidity and water. Avoid contact with eyes, skin and clothing. Avoid ingestion and inhalation. Remove contaminated clothing and shoes. Wash clothing and shoes thoroughly before reuse. Empty containers retain product residue. The work area should be equipped with the corresponding species and quantity of fire equipment and leakage emergency equipment. Use appropriate containment to avoid environmental contamination.

**Section 8 - Exposure Controls, Personal Protection****Exposure Limit:**

CAS No.	ACGIH (mg/m <sup>3</sup> )	NIOSH (mg/m <sup>3</sup> )	OSHA (mg/m <sup>3</sup> )
7440-02-0	TLV-TWA 1.5	None listed	PEL-TWA 1
1309-48-4	TLV-TWA 10 (inhalable fraction)	None listed	PEL-TWA 15
1305-78-8	TLV-TWA 2	REL-TWA 2	PEL-TWA 5
1344-28-1	TLV-TWA 10 (inhalable fraction, particulate matter containing no asbestos and <1% crystalline silica)	None listed	PEL-TWA 15 (total) ; PEL-TWA 5 (respirable fraction)
7631-86-9	None listed	REL-TWA 6	None listed
13463-67-7	TLV-TWA 10	None listed	PEL-TWA 15
1309-37-1	TLV-TWA 5 (respirable fraction)	REL-TWA 5 (dust and fume, as Fe)	PEL-TWA 10 (fume)

**Monitoring Methods:** No information found.

**Engineering Controls:** Use adequate ventilation to keep airborne concentrations low. Equipped with safety shower and eyes bath.

**Personal Protective Equipment:**

- Ø **Eyes:** Use appropriate safety glasses if there is a potential for exposure to dust/chips.
- Ø **Skin and Clothing:** Wear appropriate protective gloves and clothing.
- Ø **Respirators:** An appropriate respirator or mask should be used whenever workplace conditions warrant a respirator's use. A full face positive pressure supplied-air respirator or a self contained breathing apparatus should be used when fire or large spilled.
- Ø **Other Protection:** To maintain good health habits. Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period.



## Section 9 - Physical and Chemical Properties

**Physical State:** Cylindrical particles.

**Color:** Grey-black.

**Odor:** Weak odor.

**Molecular Formula:** Mixture.

**Molecular Weight:** N/A

**PH:** N/A

**Flash Point:** N/A

**Boiling Point:** N/A

**Melting Point:** N/A

**Relative density (water=1):** N/A

**Explosion Limits [% (V/V)]:** N/A

**Water Solubility:** Insoluble in water.

**Chemical Uses:** It is used in the ammonia decomposing furnace to decompose the  $\text{NH}_3$  and  $\text{HCN}$  into  $\text{N}_2$ ,  $\text{H}_2$  and  $\text{CO}_2$ , and so as to effectively purify the coke-oven gas for the sake of environmental protection and prevent the equipment from corrosion.

## Section 10 - Stability and Reactivity

**Chemical Stability:** Stable in closed containers under normal conditions.

**Conditions to Avoid:** Incompatible materials, dust generation, exposure to moist air or water, exceed heat, open flames.

**Incompatibilities with Other Materials:** Strong acids, oxidants, halogens, titanium powder, potassium perchlorate.

**Hazardous Decomposition Products:** Toxic gases and vapours (such as nickel carbonyl, nickel oxide fumes) may be released in a fire.

**Hazardous Polymerization:** Will not occur.

**Section 11 - Toxicological Information****Toxicological Information:**

CAS No.	RTECS#	LD50/LC50
7440-02-0	QR5950000	N/A
1309-48-4	OM3850000	N/A
1305-78-8	EW3100000	LD50: 500 mg/kg (Oral, rat)
1344-28-1	BD1200000	N/A
7631-86-9	EU8655000	N/A
13463-67-7	XR2275000	N/A
1309-37-1	NO7400000	N/A

**Carcinogenicity:**

CAS No.	ACGIH	IARC	NTP	California Prop 65
7440-02-0	A5	2B	Reasonably Anticipated to be Human Carcinogens	Initial date 10/1/89
1309-48-4	A4	Unlisted	Unlisted	Unlisted
1305-78-8	Unlisted	Unlisted	Unlisted	Unlisted
1344-28-1	A4	Unlisted	Unlisted	Unlisted
7631-86-9	Unlisted	3	Unlisted	Unlisted
13463-67-7	A4	2B	Unlisted	Unlisted
1309-37-1	Unlisted	3	Unlisted	Unlisted

Note: ACGIH: A4-Not classifiable as a human carcinogen.

ACGIH: A5-Not suspected as a human carcinogen.

IARC: Group 2B-Possibly carcinogenic to humans.

IARC: Group 3-Not classifiable as to carcinogenicity to humans.

Sensitization Rate:

Composition: CAS# 7631-86-9

- Draize test, rabbit, eye: 25 mg/24H Mild

Teratogenicity: Not available.

**Section 12 - Ecological Information**

Ecological Toxicity: Not available.

Ecological Degradation: Not available.

Biology Degradation: Not available.



### Section 13 - Disposal Considerations

The generation of waste should be avoided or minimized wherever possible. Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

### Section 14 - Transport Information

Not regulated as a hazardous material for transportation. (TDG; IMDG CODE; IATA DGR)

UN: N/A

UN Hazard Class: N/A

Shipping Name: N/A

Packaging Sign: N/A

Packaging Information: Steel drum lined plastic film bag.

Transport Fashion: By air, by sea, by rail, by road.

### Section 15 - Regulatory Information

Regulatory Information: Reference to the local, national, US, EU, CA and international regulations.

TSCA: All chemicals of this product are listed.

DSL: All chemicals of this product are listed.

OSHA: All chemicals of this product are listed.

California Prop 65: CAS# 7440-02-0 is listed.

All of the other chemicals of this product are unlisted.

IECSC: All chemicals of this product are listed.

European Labeling in Accordance with EC Directives:

**Hazard Symbols:**

Xn: Harmful.

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**Risk Description:****R 40:** Limited evidence of a carcinogenic effect.**R 43:** May cause sensitization by skin contact.**Safety Description:****S 2:** Keep out of reach of children.**S 22:** Do not breathe dust.**S 36:** Wear suitable protective clothing.**Section 16 - Additional Information****Issue Time:** 2010-06-01**Issue Department:** Technical department**Data review unit:****Modification record:****Notice to reader**

To the best of our knowledge, the information contained herein is accurate. However, neither the above named supplier nor any of its subsidiaries assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

**Other Information:**

ACGIH: (American Conference of Governmental Industrial Hygienists) ; CAS: (Chemical Abstracts Service) ; DSL: (the Domestic Substances List of Canada) ; EC: (European Commission) ; IARC: (International Agency for Research on Cancer) ; IATA: (International Air Transport Association) ; IECSC: (Inventory of Existing Chemical Substances in China) ; IMDG: (International Maritime Dangerous Goods) ; LD50: (Lethal dose, 50 percent kill) ; NIOSH: (US National Institute for Occupational Safety and Health) ; NTP: (US National Toxicology Program) ; OSHA: (US Occupational Safety and Health) ; PEL: (Permissible Exposure Level); REL: (Recommended Exposure Limit) ; RTECS: (Registry of Toxic Effects of Chemical Substances) ; STEL: (Short Term Exposure Limit) ; TDG: (Recommendations on the TRANSPORT OF DANGEROUS GOODS Model Regulations) ; TSCA: (Toxic Substances Control Act of USA) ; TWA: (Time Weighted Average) ; TLV: (Threshold Limit Value)