

# Safety Data Sheet

<p><b>1. Identification of substance :</b></p> <p>λ <b>Product details:</b></p> <p>λ <b>Trade name :</b> Spherical Aluminum powder</p> <p>λ <b>Manufacturer :</b> Hunan NingXiang Jiweixin Metal Powder Co, Ltd.</p>
<p><b>2. Composition /Data on components:</b></p> <p>λ <b>Chemical characterization :</b></p> <p>λ <b>Description :</b> Al≥99.85%    Fe≤0.1%    Si≤0.1%</p>
<p><b>3. Hazards identification</b></p> <p>λ <b>Hazard description :</b> Highly flammable</p> <p>λ <b>Information pertaining to particular dangers for man and environment</b> Contact with water liberates extremely flammable gases and spontaneously flammable in air. If the aluminum powder dusting in the air meeting with ignition sources, it could be explosive.</p>
<p><b>4. First aid measures</b></p> <p>λ <b>After inhalation</b> Supply patient fresh air .If required, provide patient artificial respiration. Keep patient warm .And seek immediate medical advice.</p> <p>λ <b>After skin contact</b> Immediately wash with water and soap and rinse thoroughly, and seek immediate medical advice.</p> <p>λ <b>After eye contact</b> Rinse opened eye for several minutes under running water .And then consult a doctor.</p> <p>λ <b>After swallowing</b> Seek immediate medical advice.</p>
<p><b>5. Fire fighting measure</b></p> <p>λ <b>Suitable extinguishing agents:</b> In case of fire, use asbestos quilt and sand.</p> <p>λ <b>For safety reasons unsuitable extinguishing agents:</b> water and gas drive fire extinguisher.</p> <p>λ <b>Protective equipment:</b> Wear self-contained respirator Wear fully protective impervious suit.</p> <p>λ <b>Fire fighting attention information:</b> During the fire fighting ,don't make the Aluminum powder dusting, and the best measure is asphyxiation technique</p>
<p><b>6. Accidental release measures</b></p> <p>λ <b>Person-related safety precautions:</b> Wear protective equipment .Keep unprotected persons away. Ensure adequate ventilation and avoid Aluminum powder dusting. Keep away from ignition sources.</p>

<ul style="list-style-type: none"> <li>λ</li> <li>λ</li> <li>λ</li> </ul>	<p><b>Measures for environmental protection:</b> Do not allow material to be released to the environment without proper governmental permits.</p> <p><b>Measures for cleaning /collecting :</b> Ensure adequate ventilation Do not flush with water or aqueous cleansing agents. Keep away from ignition sources.</p> <p><b>Additional information:</b> See section 7 for information on safe handling. See section 8 for information in personal protection equipment. See section 13 for disposal information.</p>				
<p><b>7. Handling and storage</b></p> <ul style="list-style-type: none"> <li>λ</li> <li>λ</li> <li>λ</li> <li>λ</li> <li>λ</li> <li>λ</li> <li>λ</li> </ul>	<p><b>Handling</b></p> <p><b>Information for safe handling:</b> Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace.</p> <p><b>Information about protection against explosions and fires:</b> Keep ignition sources away. Substance/product is self ignitable contacting moisture or in the air, and if the aluminum powder dusting in the air meeting with ignition sources, it could be explosion.</p> <p><b>Storage</b></p> <p><b>Information about storage in one common storage facility:</b> Store away from oxidizing agents. Store away from water/moisture. Do not store together with acids.</p> <p><b>Further information about storage conditions:</b> Keep container tightly sealed. Store in cool, dry conditions in well sealed containers.</p>				
<p><b>8. Dust controls and personal protection</b></p> <ul style="list-style-type: none"> <li>λ</li> <li>λ</li> <li>λ</li> <li>λ</li> </ul>	<p><b>Additional information about design of technical systems:</b> Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute</p> <p><b>Components with limit values that require monitoring at the workplace</b></p> <table border="0"> <tr> <td>Aluminum powder</td><td>mg/m3</td></tr> <tr> <td>China TWA</td><td>4</td></tr> </table> <p><b>Personal protective equipment</b></p> <p><b>General protective and hygienic measures:</b> The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuff, beverages and food. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work.</p>	Aluminum powder	mg/m3	China TWA	4
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λ	<b>Breathing equipment:</b> Use suitable respirator when high concentrations are present.
λ	<b>Protection of hands: impervious gloves</b>
λ	<b>Eye protection:</b> safety glasses. full face protection.
λ	<b>Body protection:</b> protective work clothing
<b>9. physical and chemical properties</b>	
λ	<b>General information</b>
λ	<b>Form :</b> Powder
λ	<b>Color :</b> Silver gray
λ	<b>Odor :</b> Odorless
λ	<b>Value/range unit method</b>
λ	<b>Change in condition</b>
λ	<b>Melting point:</b> 660°C
λ	<b>Boiling point :</b> 2467°C
λ	<b>Sublimation temperature /start:</b> Not determined
λ	<b>Flash point :</b> Not applicable
λ	<b>Flammability(solid, gaseous) :</b> Contact with water liberates extremely flammable gases.
λ	<b>Ignition temperature :</b> 560°C
λ	<b>Decomposition temperature:</b> Not determined
λ	<b>Auto igniting :</b> Spontaneously flammable in air
λ	<b>Explosion limits</b>
λ	<b>Lower:</b> 37-50mg/m3
λ	<b>Upper:</b> Not determined
λ	<b>Vapor pressure :</b> Not determined
λ	<b>Density :</b> 20°C , 2. 699g/cm3
λ	<b>Solubility in/miscibility with</b>
λ	<b>Water</b> Contact with water liberates extremely flammable gases.
<b>10. Stability and reactivity</b>	
λ	<b>Thermal decomposition / conditions to be avoided:</b> Decomposition will not occur if used and stored according to specifications.
λ	<b>Materials to be avoided:</b>
λ	<b>Dangerous reactions:</b> Contact with water releases flammable gas and spontaneously flammable in air. If the aluminum powder dusting in the air meeting with ignition sources, it could be explosion.
λ	<b>Dangerous products of decomposition:</b> Hydrogen
<b>11. Toxicological information</b>	
λ	<b>Acute toxicity</b>
λ	<b>Primary irritant effect:</b>

λ	<b>On the skin:</b> Irritant to skin and mucous membranes.		
λ	<b>On the eye:</b> irritating effect.		
λ	<b>Sensitization:</b> No sensitizing effects known.		
λ	<b>Subacute to chronic toxicity:</b> Aluminum may be implicated in Alzheimers disease .Inhalation of aluminum containing dusts may cause pulmonary disease.		
λ	<b>Additional toxicological information:</b> To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.  No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGHI.		
<b>12. Ecological information:</b>			
λ	<b>General notes:</b> Do not allow material to be released to the environment without proper governmental permits.		
<b>13.disposal considerations</b>			
λ	<b>Product:</b>		
λ	<b>Recommendation:</b> Consult state, local or national regulations to ensure proper disposal. If possible, recycle and use. Deal with it by safe burial may be ok.		
λ	<b>Uncleaned packaging:</b>		
λ	<b>Recommendation:</b> Disposal must bee made according to official regulations.		
<b>14. Transport information</b>			
λ	<b>Dot regulations:</b>		
λ	<b>CAS number:</b>	7429-90-5	
λ	<b>Hazard class :</b>	4.3	
λ	<b>Hazard Cargo number:</b>	43013	
λ	<b>Identification number:</b>	UN1396	
λ	<b>Poison inhalation hazard:</b>	No	
λ	<b>Proper shipping name (technical name ) :</b> Aluminum powder, uncoated		
λ	<b>Land transport ADR/RID(cross-border)</b>		
λ	<b>ADR/RID class:</b>	4.3 Substances which in contact with water emit flammable gases	
λ	<b>Item :</b>	13b	
λ	<b>Danger code (Kemler) :</b>	423	
λ	<b>UN-number :</b>	1396	
λ	<b>Maritime transport IMDG:</b>		
λ	<b>IMDG class:</b>	4.3	
λ	<b>UN-number:</b>	1396	
λ	<b>EMS number:</b>	4.2-02	
λ	<b>Proper shipping name :</b>	Aluminum powder, uncoated	

λ	<b>Air transport ICAO and IATA-DGR:</b>	
λ	<b>ICAO/IATA class:</b>	4.3
λ	<b>UN/ID number:</b>	1396
λ	<b>Proper shipping name :</b>	Aluminum powder, uncoated
<b>15. Regulations</b>		
λ	<b>Product related hazard information :</b>	
λ	<b>Hazard symbols: highly flammable</b>	
λ	<b>Risk phrases:</b>	
	Contact with water releases flammable gas and spontaneously flammable in air. If the aluminum powder dusting in the air meeting with ignition sources, it could be explosion.	
λ	<b>Safety phrases:</b>	
	Keep container tightly closed and dry. In case of fire, use asbestos quilt, sand. Never use water and gas drive fire extinguisher.	
λ	<b>National regulations:</b>	
	All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory.	
λ	<b>Information about limitation of use:</b>	
	For use only by technically qualified individuals.	
<b>16. Other information</b>		
λ	Employers should use this information only as a supplement to other information gathered by them, and should make independent judgment 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.	