



Riley Equipment Company
6911 Gant Road
Houston, Texas 77066
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(281) 583-5295 Fax: (281) 583-5299

Safety Data Sheet

Activated Alumina – Iron Enhanced

Section 1: Identification of Substance and Company

Product Name: Activated Alumina – Iron Enhanced (AA-Fe)
Supplier: Riley Equipment
Address: 6911 Gant Rd, Houston, TX 77066
Telephone: 281-583-5295
Fax: 281-583-5299

Section 2: Hazards Identification

This product is not classified as flammable. Refer to the recommendations regarding the other products present on the site. This preparation is not classified as hazardous to health by directive 1999/45/EC.

Other data: Avoid the formation or spread of dust in the atmosphere.

Section 3: Composition/Information on Ingredients

Hazardous substances present on their own: (present in the preparation at a sufficient concentration to give it the toxicological characteristics it would have in a 100% pure state). This preparation contains no hazardous substance in this category.

Other substances representing a hazard: No known substance in this category present.

Substances present at a concentration below the minimum danger threshold: No known substance in this category present.

Mixtures:

<i>Chemical Name</i>	<i>CAS Number</i>	<i>%</i>
Aluminum(ii) oxide	1344-28-1	80 - < 90
Iron(ii) oxide	1309-37-1	3 - < 5
Sodium oxide	1313-59-3	1 - < 3
Other components below reportable levels		5 - < 10

Other substances with occupational exposure limits:

INDEX CAS	EC	Name	Symbol	R: %
1344-28-1	215-691-6	ALUMINUM OXIDE	Al ₂ O ₃	50 <= x % < 100

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Section 4: First Aid Measures

As a rule, in case of doubt or if symptoms persist, always call a doctor. NEVER induce swallowing in an unconscious person.

In the event of exposure by inhalation: Move the affected person away from the contaminated area and into the fresh air. In the event of splashes or contact with eyes: IMMEDIATELY rinse with plenty of water for a prolonged period, (at least 15 minutes) whilst keeping the eyes wide open. If irritation persists, consult an eye specialist.

In the event of splashes or contact with skin: Rinse with plenty of water. In the event of swallowing: Rinse mouth out with water.

Section 5: Firefighting Measures

Suitable extinguishing media: All extinguishing agents can be used.

Extinguishing media which must not be used for safety reasons: None to our knowledge. If there is a fire close by, use suitable extinguishing agents.

Section 6: Accidental Release Measures

Personal precautions: Consult the safety measures listed under headings 7 and 8. Since the product may be in the form of balls, it can cause the floor to be very slippery.

Environmental precautions: Prevent any material from entering drains or waterways.

Methods for cleaning up: Sweep up or vacuum up the product. If necessary, wash with water following recovery.

Section 7: Handling and Storage

The regulations relating to storage premises apply to workshops where the product is handled.

Handling: Does not require any specific or particular measures. Avoid the formation or spread of dust in the atmosphere.

Fire prevention: Prevent access by unauthorized personnel.

Storage: To guarantee the quality and properties of the product keep - protected from humidity and inclement weather conditions.

Section 8: Exposure Controls/Personal Protection

Occupational exposure limits: CAS TWA: STEL: Ceiling: Definition: Criteria: 1344-28-1 0.5 mg/m³ - - - R-USA / OSHA PEL (Occupational Safety and Health Administration, Permissible Exposure Limits):

Derived no effect level (DNEL) or derived minimum effect level (DMEL): ALUMINA/BOEHMITE: DNEL: 3000 µg/m³ (in Al₂O₃) Predicted no effect concentration (PNEC): ALUMINIUM OXIDE (CAS: 1344-28-1)

Environmental compartment: Fresh water.PNEC: 0.0749 mg/l

Environmental compartment: Waste water treatment plant. PNEC: 20 mg/l

US OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

<i>Components</i>	<i>Type</i>	<i>Value</i>	<i>Form</i>
Aluminum(ii) oxide (CAS 1344-28-1)	PEL	5 mg/m ³	Respirable fraction
		15 mg/m ³	Total dust

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Iron(ii) oxide (CAS 1309-37-1)	PEL	10 mg/m3	Fume
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US ACGIH Threshold Limit Values

<i>Components</i>	<i>Type</i>	<i>Value</i>	<i>Form</i>
Aluminum(ii) oxide (CAS 1344-28-1)	TWA	1 mg/m3	Respirable fraction
Iron oxide (CAS 1309-37-1)	TWA	5 mg/m3	Respirable fraction

US NIOSH: Pocket Guide to Chemical Hazards

<i>Components</i>	<i>Type</i>	<i>Value</i>	<i>Form</i>
Diiron Trioxide (CAS 1309-37-1)	TWA	5 mg/m3	Dust and fume

Respiratory protection: If dust is generated: Anti-aerosol filters - P3 (white)

Hand protection: Type of gloves recommended: Nitrite, PVC (polyvinyl chloride)

Eye and face protection: Safety spectacles with side shields.

Skin protection: Protective clothing with elasticized cuffs and closed neck.

Section 9: Physical and Chemical Properties

General information:

Physical state: solid in granules

Important health, safety and environmental information: pH of the substance or preparation: not relevant. The pH is impossible to measure or its value is not relevant.

Flash point interval: not relevant.

Vapor pressure: not relevant.

Density: < 1

Density: 3.0-3.7

(water=1) Water solubility: Insoluble.

Other information: melting point/melting range: 2050 C.

Section 10: Stability and Reactivity

The preparation is stable at the handling and storage conditions recommended per § 7 of the safety data sheet, Refractory product, stable at high temperatures.

Section 11: Toxicological Information

The preparation contains no substance classified as hazardous per directive 67/548/EEC. No data is available regarding the preparation itself.

In the event of exposure by inhalation: Inhalation of high concentrations of these inert nuisance particulates can result in mild irritation of the respiratory tract.

In the event of splashes or contact with skin: May cause irritation.

In the event of splashes or contact with eyes: May cause irritation.

Other data: Activated alumina may adsorb certain gases and liquids. While alumina itself is principally inert, it may exhibit properties of the adsorbed material.

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Section 12: Ecological Information

No ecological data on the product itself is available.

Mobility: Slightly soluble product, readily forms deposits.

Persistence and degradability: Inert mineral product. Not degradable.

Ecotoxicity: No effects are expected from this insoluble product because insolubility leads to non-bioavailability.

Section 13: Disposal Considerations

Do not pour into drains or waterways. Unused material may be incinerated or land filled in facilities meeting local regulations. Waste: Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company. Do not contaminate the ground or water with waste, do not dispose of waste into the environment. The exhausted catalysts may have different risks and properties compared to the original product. This safety data sheet is not applicable to exhausted catalysts.

Soiled packaging: Empty container completely. Keep label(s) on container. Empty containers should be taken to local recyclers for disposal. Refer to local regulations.

Section 14: Transport Information

Exempt from transport classification and labeling. Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2009 - IMDG 2008 - ICAO/IATA 2009).

Section 15: Regulatory Information

Classification by: Directive 1999/45/EC and its adaptations. EC regulation 1272/2008 (CLP) and its adaptations (EC regulation 790/2009).

Particular hazards associated with the preparation and safety recommendations: S 22 Do not breathe dust.

Section 16: Other Information

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall Riley Equipment be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if Riley Equipment has been advised of the possibility of such damages.

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