Atmosphere Dynamics Corp

SAFETY DATA SHEET

Section 1 - Identification

Manufacturer's Name & Address

Atmosphere Dynamics Corporation
1107 St Joseph Street
Shelbyville, Indiana 46176 USA

Telephone Number

317.392.6262

FAX Number

317.392.1773

GHS Product Identifier

Ammonia Dissociator Catalyst

Trade Names and Synonyms

Iron (Fe_2O_3) Impregnated Fire Brick
Iron Catalyst Cubes

Product Numbers

ICC01

Recommended Use

Catalyst

Recommended Restrictions

None known

Section 2 – Hazard(s) Identification

OSHA/HCS Status:

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Health Hazards:

SPECIFIC TARGET ORGAN TOXICITY – Category 1 (Repeated Exposure)
CARCINOGEN – Category 1A
SENSITIZATION, SKIN / RESPIRATORY – Category 1

GHS Label Elements:

Signal Word: **DANGER**

Hazard Statement: Health hazards, including cancer, may arise from inhalation of dust generated from handling, ingestion and/or contact with skin and/or eyes

Prevention: Do not breathe dust
Wash thoroughly after handling
Do not handle until all safety precautions have been read
Wear respiratory protection

Response: If exposed or concerned, get medical advice or attention

Storage: No precautions needed

Disposal: Dispose of contents in accordance with all local, regional, national, and international regulations

Hazards not otherwise Classified: None known

Section 3 – Composition / Information on Ingredients

Mixture

Ingredient Name	***CAS Number***	***%***
Aluminum Oxide, AL_2O_3	1344-28-1	41-71
Silica, SiO_2	7631-86-9	31-56
as Crystalline Quartz	14808-60-7	
as Crystalline Cristobalite	14464-46-1	
Iron Oxide, Fe_2O_3	1309-37-1	4-6

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Section 4 – First Aid Measures

Inhalation: Remove to fresh air. May give oxygen. Consult physician.

Eye Contact: Flush eyes with copious amounts of water, at least 15 minutes.

Skin Contact: Remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention if irritation or inflammation persists.

Ingestion: Induce vomiting if conscious. Consult physician.

Most important symptoms/effects, acute and delayed
Over-exposure signs/symptoms:

Inhalation: Inhalation of concentrations above the Occupational Exposure Limits may cause congestion and irritation of the throat, nasal passages and upper respiratory system.

Eye Contact: Temporary irritation and inflammation
Check for and remove any contact lenses
If irritation persists, seek medical attention

Skin Contact: May cause allergic dermatitis

Ingestion: May cause stomach and intestinal distress

Indication of immediate medical attention and special treatment needed: Medical conditions which may be aggravated by exposure include upper respiratory and lung disease such as, but not limited to, bronchitis, emphysema, and asthma.

Section 5 – Fire-fighting Measures

Specific hazards arising from the chemical: None known

Hazardous Decomposition: Decomposition products may include Crystalline Silica. During initial exposure to service temperatures, smoke may be emitted which can cause transitory irritation to the lungs and upper respiratory system. Toxic fumes of nitrogen oxides and metal oxides may be present during decomposition.

Special protective actions for firefighters: Material will not burn
No special firefighting equipment is necessary

Section 6 – Accidental Release Measures

Personal precautions, protective equipment and emergency procedures:

No action shall be taken involving any personal risk or without suitable training
Provide adequate ventilation
Wear appropriate respirator when ventilation is inadequate
Put on appropriate personal protective equipment (see section 8)

Methods and materials for containment and cleaning up:

Contain spill. Pick up and place in container for disposal in accordance with Federal, State and Local laws.

Section 7 – Handling and Storage

Precautions for safe handling: Minimize dust generation. Use appropriate respiratory protection if dust is present above exposure limits. Avoid contact with eyes and skin.

Conditions for safe storage: Store in accordance with local regulations.
Store in a dry, cool and well ventilated area, away from incompatible materials (see section 10).

Section 8 – Exposure Controls/Personal Protection

Occupational Exposure Limits:

US OSHA Permissible Exposure Limit:

Irritant (Nuisance) Dust:	5.0 mg/m^3
Crystalline Silica (Respirable):	$\frac{10\ mg/m^3}{\%SiO_2 + 2}$
Crystalline Silica (Total Dust):	$\frac{30\ mg/m^3}{\%SiO_2 + 2}$
Iron Oxide:	1.0 mg/m^3

US ACGIH Threshold Limit Values:

Irritant (Nuisance) Dust:	3.0 mg/m^3
Crystalline Silica:	0.025 mg/m^3
Iron Oxide:	0.2 mg/m^3

Appropriate Engineering Controls: If user operations generate dust, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure below any recommended or statutory limits.

Individual Protection Measures:

Respiratory: Wear a NIOSH-approved dust mask to limit exposure. Higher dust levels may require use of a half or full mask respirator with dust filters.

Eye/Face: Wear safety glasses with side shields or goggles complying with an approved standard to avoid exposure to dust

Skin: Protective gloves complying with an approved standard should be worn when handling chemical products

Section 9 – Physical and Chemical Properties

Appearance	Red/Brown Solid Cubes
Physical State	Solid
Color	Red/Brown
Odor	None
Odor Threshold	Not Applicable
pH	Not Applicable
Melting Point	2900-3400 Deg. F
Boiling Point	N/A
Flash Point	None
Burning Time	Not Applicable
Specific Gravity	0.9
Burning Rate	Not Applicable
Evaporation Rate	0 (butyl acetate = 1)
Flammability (solid, gas)	Not Applicable
Lower Explosive (flammable) Limit	Not Available
Upper Explosive (flammable) Limit	Not Available
Vapor Pressure	Not Applicable
Vapor Density	Not Applicable
Relative Density	Not Available

Solubility	Insoluble
Solubility in Water	Insoluble
Partition Coefficient: n-octanol/water	Not Available
Auto-ignition Temperature	Not Available
Decomposition Temperature	Not Available
SADT	Not Available
Viscocity	Not Available

Section 10 – Stability and Reactivity

Reactivity: The product is stable and non-reactive under normal conditions

Chemical Stability: Stable under normal temperature conditions

Possibility of Hazardous Reactions: Under normal conditions of storage and use, hazardous reactions or polymerization will not occur

Conditions to Avoid: Avoid strong acids and ammonium salts. Contact with strong oxidizing agents (such as fluorine, chlorine trifluoride) may present a fire hazard.

Incompatible Materials: Hydrofluoric acid, fluorine, chlorine trifluoride, oxygen difluoride

Hazardous Decomposition Materials: Nitrogen oxides and metal oxides may be present during decomposition

Section 11 – Toxicological Information

Information on likely routes of exposure

Ingestion: May irritate and cause stomach pain, vomiting and diarrhea

Inhalation: May cause allergic respiratory reaction

Skin contact: May cause an allergic skin reaction

Eye contact: May irritate eyes

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral Product: No data available

Dermal Product: No data available

Inhalation Product: No data available

Repeated dose toxicity product: No data available

Skin corrosion/ irritation product: May cause skin irritation

Eye damage/ irritation product: May cause temporary eye irritation

Respiratory or skin sensitization product: May cause allergic skin reaction

Carcinogenicity product: NTP- In its twelfth annual report on Carcinogens, respirable crystalline silica was classified as known human carcinogens.

IARC (Volume 68) – There is sufficient evidence in humans for the carcinogenicity of inhaling crystalline silica in the form of quartz or cristobalite from occupational sources.

OSHA – Crystalline silica and iron oxide are not regulated as a carcinogens.

Germ cell mutagenicity

In vitro product: No mutagenic components identified

In vivo product: No mutagenic components identified

Reproductive toxicity product: No components toxic to reproduction

Specific target organ toxicity- single exposure product: None known

Specific target organ toxicity- repeated exposure product: None known

Aspiration hazard product: Not classified

Other effects: Not known

Section 12 – Ecological Information

Toxicity

Persistence and Degradability: Not available

Bioaccumulative Potential: Not available

Mobility in Soil

Soil/water partition coefficient: Not available

Other adverse effects: Most of the ingredients in this product are naturally occurring minerals, and unless contaminated in service, are not hazardous to the environment

Section 13 – Disposal Considerations

Disposal Methods: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14 – Transport Information

US DOT Shipping Name: Not regulated

DOT Label: None

UN/NA Number: None

Canadian TGD Shipping Description: Not regulated as dangerous goods according to Canadian TDGA

International Dangerous Goods Information:

IMO: Not regulated as dangerous goods according to the IMDG Code

ICAO: Not regulated as dangerous goods according to the IACO Technical Instructions

IATA: Not regulated as dangerous goods according to the IATA Dangerous Goods Regs

Section 15 – Regulatory Information

US Federal Regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not applicable

United States Inventory (TSCA 8b): This material is listed

CERLA Hazardous Substance List (40 CFR 302.4): None present in regulated quantities

SARA 302 Extremely Hazardous Substance: None present in regulated quantities

SARA 304 Emergency Release Notification: Iron Oxide

SARA 311/312 Hazardous Chemical: Iron Oxide, 500 lbs. TPQ

SARA 313 (TRI Reporting): Iron Oxide

Reporting threshold for other users: 10000 lbs.

Reporting threshold for manufacturing and processing: 25000 lbs.

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs):	Not listed
Clean Water Act Section 311 Hazardous Substances (40 CFR 117.3):	None present in regulated quantities
Clean Air Act Section 602 Class I Substances:	Not listed
Clean Air Act Section 602 Class II Substances:	Not listed
DEA List I Chemicals (Precursor Chemicals):	Not listed
DEA List II Chemicals (Essential Chemicals):	Not listed

Section 16 – Other Information

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