



LTS Research Laboratories, Inc.
Safety Data Sheet
Aluminum Oxynitride-Sodium Oxide/Sodium Carbonate

1. Product and Company Identification

Trade Name: Aluminum Oxynitride- Sodium Oxide/Sodium Carbonate
Chemical Formula: $Al_{23}O_{27}N_5 \cdot Na_2O/Na_2CO_3$
Recommended Use: Scientific research and development

Manufacturer/Supplier: LTS Research Laboratories, Inc.
Street: 37 Ramland Road
City: Orangeburg
State: New York
Zip Code: 10962
Country: USA
Tel #: 855-587-2436 / 855-lts-chem

24-Hour Emergency Contact: 800-424-9300 (US & Canada)
+1-703-527-3887 (International)

2. Hazards Identification

Signal Word: Danger



Hazard Statements: H271: May cause fire or explosion; strong oxidizer
H314: Causes severe skin burns and eye damage.
H319: Causes serious eye irritation
H335: May cause respiratory irritation

Precautionary Statements: P210: Keep away from heat/sparks/open flames/hot surfaces – No smoking
P221: Take any precaution to avoid mixing with combustibles
P260: Do not breathe dust or mist.
P264 Wash skin thoroughly after handling.
P280: Wear protective gloves/protective clothing/eye protection/face protection.
P283: Wear fire/flammable resistant/retardant clothing
P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304 + P340 + P310: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor/ physician.
P305 + P351 + P338 + P310: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
P306+P360: IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes.
P337+P313: If eye irritation persists get medical advice/attention
P363: Wash contaminated clothing before reuse.

P405: Store locked up
P501: Dispose of contents/container in accordance with local/regional/national/international regulations

HMIS Health Ratings (0-4):
Health: 3
Flammability: 3
Physical: 3

3. Composition

Chemical Family: Ceramic
Additional Names: ALON-Na₂O

Aluminum Oxynitride (Al₂₃O₂₇N₅):
Percentage: 0-100 wt%
CAS #: 12633-97-5
EC #: N/A

Sodium Oxide (Na₂O):
Percentage: 0-100 wt%
CAS #: 1313-59-3
EC #: 215-208-9

Sodium Carbonate (Na₂CO₃):
Percentage: 0-100 wt%
CAS #: 497-19-8
EC #: 207-838-8

4. First Aid Procedures

General Treatment: Seek medical attention. Immediately remove any clothing soiled by the product.

Special Treatment: None

Important Symptoms: None

Inhalation: Remove victim to fresh air. Supply oxygen if breathing is difficult. Keep victim warm.

Ingestion: Seek medical attention.

Skin: Wash affected area with mild soap and water. Remove any contaminated clothing. Seek medical attention.

Eyes: Flush eyes with water, blinking often for several minutes. Remove contact lenses if present and easy to do. Continue rinsing while transferring to medical attention center.

5. Firefighting Measures

Flammability: Flammable

Extinguishing Media: Do not use water or halocarbon extinguisher – use CO₂, sand, extinguishing powder.

Spec. Fire Fighting Procedure: Use full-face, self-contained breathing apparatus with full protective clothing to prevent contact with skin and eyes. See section 10 for decomposition products.

6. Accidental Release Measures

If Material Is Released/Spilled:	Wear appropriate respiratory and protective equipment specified in special protection information. Isolate spill area and provide ventilation. Use neutralizing agent. Vacuum up spill using a high efficiency particulate absolute (HEPA) air filter and place in a closed container for disposal. Take care not to raise dust.
Environmental Precautions:	Isolate runoff to prevent environmental pollution.

7. Handling and Storage

Handling Conditions:	Handle under dry protective gas. Protect from humidity and water. Wash thoroughly after handling. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Avoid formation of dust and aerosols.
Storage Conditions:	Store under dry, inert gas. Store in a cool dry place in a tightly sealed container. This product is moisture and air sensitive. Store apart from materials and conditions listed in section 10.
Work/Hygienic Maintenance:	Do not use tobacco or food in work area. Wash thoroughly before eating and smoking. Do not blow dust off clothing or skin with compressed air.
Ventilation:	Provide sufficient ventilation to maintain concentration at or below threshold limit.

8. Exposure Controls and Personal Protection

Permissible Exposure Limits: Threshold Limit Value:	5 mg/m ³ as Al ₂ O ₃ , long-term value 1 mg/m ³ as Al, long-term value
Special Equipment: Respiratory Protection:	None Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards
Protective Gloves:	Rubber gloves
Eye Protection:	Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
Body Protection:	Protective work clothing. Wear close-toed shoes and long sleeves/pants.

9. Physical and Chemical Characteristics

Color	N/A
Form:	Powder, Granules, Pellets, Sputtering target, Custom parts
Odor:	N/A
Water Solubility:	N/A
Boiling Point:	N/A
Melting Point:	N/A
Flash Point:	N/A
Autoignition Temperature:	N/A
Density:	N/A
Molecular weight:	N/A

10. Reactivity

Stability:	Stable under recommended storage conditions. May intensify fire; oxidizer
Reacts With:	Oxidizing agents, acids, bases, halogens, halocarbons, organic materials, metal powders, water/moisture, flammable substances, reducing agents.
Incompatible Conditions:	Water/Moisture, humidity, air, oxidizing agents, flammable substances, reducing agents, organic materials, metal powders
Hazardous Decomposition Products:	Metal oxide fume, nitrogen oxide, ammonia, sodium oxide, carbon monoxide, carbon dioxide

11. Toxicological Information

Potential Health Effects:	
Eyes:	Causes serious eye damage
Skin:	Causes severe skin burns
Ingestion:	Swallowing will lead to a strong corrosive effect on mouth and throat and to the danger of perforation of esophagus and stomach.
Inhalation:	May cause irritation
Chronic:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
Signs & Symptoms:	N/A
Aggravated Medical Conditions:	N/A
Median Lethal Dose:	4090 mg/kg (Rat) (as sodium carbonate)
Carcinogen (for Na ₂ O):	IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC ^{atories, inc.} ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

12. Ecological Information

Aquatic Toxicity:	N/A
Persistent Bioaccumulation Toxicity:	N/A
Very Persistent, Very Bioaccumulative:	N/A
Notes:	Do not allow to be released to the environment without proper governmental Do not allow undiluted product or large quantities to reach ground water, water course, or sewage system Avoid transfer into the environment

13. Disposal Considerations

Dispose of in accordance with local, state, national, and international regulations.

14. Transportation Data

Hazardous:

Hazardous for transportation



Hazard Class:

5.1

Secondary Hazard Class:

8

Packing Group:

PG I

UN Number:

UN3085

Proper Shipping Name:

Oxidizing solid, corrosive, n.o.s. (Aluminum oxynitride-Sodium oxide)

15. Regulatory Information

Sec 302 Extremely Hazardous:

N/A

Sec 304 Reportable Quantities:

N/A

Sec 313 Toxic Chemicals:

N/A

16. Other Information

This safety data sheet should be used in conjunction with technical sheets. It does not replace them. The information given is based on our knowledge of this product, at the time of publication. It is given in good faith. The attention of the user is drawn to the possible risks incurred by using the product for any other purpose other than that for which it was intended. This does not in any way excuse the user from knowing and applying all the regulations governing his activity. It is the sole responsibility of the user to take all precautions required in handling the product. The aim of the mandatory regulations mentioned is to help the user to fulfill his obligations regarding the use of hazardous products.

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