SAFETY DATA SHEET

PRODUCT NAME: ALLGANIC NITROGEN PLUS
Product Code: 053_A/01-US
Date of issue: April 2016

1. PRODUCT AND COMPANY IDENTIFICATION
Product identifier: Allganic Nitrogen Plus
Recommended uses: Only for professional use in the formulation of fertilizer preparations and end-use as fertilizer
Supplier: SQM North America
2727 Paces Ferry Rd, Building Two, Suite 1425
Atlanta, GA 30339
Company Telephone/Fax: (770) 916 9400 / (770) 916 9404
Emergency Telephone Number: (800) 424 9300 (CHEMTREC)

2. HAZARDS IDENTIFICATION
Classification of the substance or mixture
Classification of the chemical in accordance with 29CFR §1910.1200
Hazard classes and Hazard categories
Midly irritating to eyes, cat. 2B
Hazard statements
Causes eye irritation.
Label elements
Hazard pictograms: Not applicable
Signal word: WARNING
Hazard Statements: Causes eye irritation.
Precautionary Statements
Wash hands thoroughly after handling.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Other hazards
None

3. COMPOSITION/INFORMATION ON INGREDIENTS
This product has to be considered as a mixture/preparation
Ingredients classified as health hazards
<table>
<thead>
<tr>
<th>Ingredient</th>
<th>CAS No</th>
<th>EC No</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sodium nitrate</td>
<td>7631-99-4</td>
<td>231-554-3</td>
<td>&gt; 90 %</td>
</tr>
<tr>
<td>Perchlorate (ClO₄⁻)</td>
<td></td>
<td></td>
<td>&lt; 0.01 %</td>
</tr>
<tr>
<td>Iodate (IO₃⁻)</td>
<td></td>
<td></td>
<td>0.005 - 0.01 %</td>
</tr>
</tbody>
</table>

4. FIRST AID MEASURES
Description of first aid measures
General information
In case of persisting adverse effects consult a physician.
Never give anything by mouth to an unconscious person or a person with cramps.
In case of inhalation
Remove to fresh air and keep at rest in a position comfortable for breathing.
Get medical attention for any breathing difficulty.
In case of skin contact
Wash with plenty of soap and water. If skin irritation occurs: Get medical advice/attention.
In case of eye contact
Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
In case of ingestion
Rinse mouth immediately and drink plenty of water.
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Most important symptoms and effects, both acute and delayed

The following symptoms may occur:

In case of inhalation
- Irritation to respiratory tract
- Delayed lung effects after short term exposure to thermal degradation products

In case of skin contact
- May cause redness or irritation

In case of eye contact
- Causes serious eye irritation.

In case of ingestion
- Ingestion of large amounts may cause: Gastrointestinal disturbances

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE FIGHTING MEASURES

Extinguishing media

Use any suitable mean for extinguishing surrounding fire. Spray water for small fires. For large fires flood with abundant water.

Unsuitable material:

None, but attention should be paid to compatibility with chemicals surrounding.

Specific hazards arising from the chemical

This product may enhance an existing fire.

Thermal decomposition can lead to the escape of toxic/corrosive gases and vapours.

Thermal decomposition products: Nitrous oxides (NOx), sodium nitrite and sodium oxide.

Protective equipment and precautions for firefighters

Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (self contained breathing apparatus (SCBA)).

6. ACCIDENTAL RELEASE MEASURES

Personal precautions

Provide adequate ventilation. Wear personal protection equipment (Section 8).

Environmental precautions

Do not allow to enter into surface water or drains. Ensure waste is collected and contained.

Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal or recovery.

Unsuitable material for containment/taking up: Do not absorb in saw-dust or other combustible absorbents.

Other information

None

7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid generation of dust. Provide adequate ventilation. Wear personal protective equipment. Wash hands thoroughly after handling. Do not eat, drink or smoke when using this product. Keep away from flammable, combustible, strong acids and reducing substances.

Perchlorate containing product - Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate and Section 15 for more information regarding California State regulations.

Conditions for safe storage, including any incompatibilities

Keep/store only in original container. Store in a well-ventilated place. Keep container tightly closed.

Do not store together with: Flammable substance, reducing agents, strong acids, empty wood pallets.

Perchlorate containing product - Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate and Section 15 for more information regarding California State regulations.
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure Guidelines

Occupational exposure limits
Sodium nitrate:

<table>
<thead>
<tr>
<th>Standard</th>
<th>PEL</th>
<th>STEL/ceiling</th>
</tr>
</thead>
<tbody>
<tr>
<td>OSHA</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
<tr>
<td>ACGIH</td>
<td>Not Established</td>
<td>Not Established</td>
</tr>
</tbody>
</table>

Derived No-Effect Level (DNEL) suggested by the manufacturer

<table>
<thead>
<tr>
<th>Workers (industrial/professional):</th>
</tr>
</thead>
<tbody>
<tr>
<td>DNEL Human, dermal, long term (repeated):</td>
</tr>
<tr>
<td>DNEL Human, inhalation, long term (repeated):</td>
</tr>
</tbody>
</table>

Derived No-Effect Level (DNEL) is the level of exposure to the substance above which humans should not be exposed.

Engineering controls
Use exhaust ventilation to keep airborne concentrations below exposure limits.

Personal Protective Equipment
Eye/face protection
Chemical goggles required all the time.

Skin Protection
Nitrile rubber gloves, over 0.11 mm thickness, > 480 min breakthrough time, recommended.

Respiratory Protection
Wear respiratory protection, where airborne concentrations are expected to exceed exposure limits

General Hygiene Considerations
Avoid contact with eyes and skin. Wash hands thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Solid, prilled</td>
</tr>
<tr>
<td>Colour</td>
<td>White</td>
</tr>
<tr>
<td>Odour</td>
<td>Odourless</td>
</tr>
<tr>
<td>Odour Threshold</td>
<td>No applicable</td>
</tr>
<tr>
<td>pH value</td>
<td>8-10 (1% aqueous solution)</td>
</tr>
<tr>
<td>Melting point / freezing range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling temperature / boiling range</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapourisation rate / Evaporation rate</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammable solids</td>
<td>Not flammable</td>
</tr>
<tr>
<td>Explosion limits (LEL, UEL)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Considered negligible (based on melting point)</td>
</tr>
<tr>
<td>Vapour density</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Density</td>
<td>1.25 ton (metric) / m³</td>
</tr>
<tr>
<td>Solubility</td>
<td>&gt; 96 g/L at 20 °C/68 °F (water)</td>
</tr>
<tr>
<td>Partition coefficient n-octanol /water</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Auto Ignition temperature (AIT)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Decomposition temperature</td>
<td>&gt; 550 °C/1022 °F</td>
</tr>
<tr>
<td>Viscosity</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>Not explosive</td>
</tr>
<tr>
<td>Oxidising properties</td>
<td>Not oxidizer</td>
</tr>
<tr>
<td>Other information</td>
<td>None</td>
</tr>
</tbody>
</table>
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10. STABILITY AND REACTIVITY

Reactivity
No hazardous reaction when handled and stored according to provisions.

Chemical stability
Stable under normal storage and temperature conditions.

Possibility of hazardous reactions
None identified

Conditions to avoid
Keep away from flammable, combustible, strong acids and reducing materials.

Incompatible materials
Flammable, combustible, strong acids and reducing substances under specific conditions. These incompatible materials shall not include approved packaging materials, pallets, or other dunnage (NFPA 430/2004, Code for the Storage of Liquid and Solid Oxidizers, item 4.4.3.1).

Hazardous decomposition products
Thermal decomposition products: Nitrous oxides (NO\textsubscript{x}), sodium nitrite and sodium oxide.

11. TOXICOLOGICAL INFORMATION

The following information mostly refers to the major component of the product.

Likely routes of exposure (inhalation, ingestion, skin and eye contact)
Eye contact, skin contact and inhalation. Exposure by ingestion is not expected to occur through normal industrial use.

Symptoms related to the physical, chemical and toxicological characteristics
May be irritant to the respiratory tract. Causes serious eye irritation. May cause redness or irritation to the skin. Ingestion of large amounts may cause gastrointestinal disturbances. May cause delayed lung effects after short term exposure to thermal degradation products.

Information on toxicological effects from short and long term exposure
There is no data for the mixture itself.

Acute toxicity
- Acute oral toxicity: LD\textsubscript{50}:
- Acute Toxicity Estimate for the mixture: > 2000 mg/kg bw (additivity formula)
- Acute dermal toxicity: LD\textsubscript{50}:
- Acute Toxicity Estimate for the mixture: >2000 mg/kg pc (additivity formula)
- Acute inhalation toxicity: LC\textsubscript{50}:
- Acute Toxicity Estimate for the mixture: Does not contain acutely toxic ingredients/impurities.

Assessment / classification:
Based on available data for the ingredients of the mixture, the classification criteria are not met.

Irritant and corrosive effects

Irritation to the skin
Main ingredients: non-irritating to skin
Assessment / classification: Equivalent/similar to OECD guideline 404

Irritation to eyes

Sodium nitrate
Result: non-irritant.
Assessment / classification: In vitro study

Sodium nitrate
Result: Irritant
Species: Rabbit.
Method: OECD Guideline 405

Assessment / classification: Based on available data for ingredients of the mixture, this product is classified and labelled as Midly irritating to eyes, category 2B: Causes eye irritation, in accordance with Appendix A to 29CFR section 1910.1200.

Respiratory or skin sensitisation

Skin sensitization
Main ingredients: not sensitising.
Assessment / classification: OECD Guideline 429

Respiratory sensitisation
No information available.
Assessment / classification: Based on available data for the ingredients of the mixture, the classification
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**Genetic effects**
The product does not contain ingredients classified as germ cell mutagens. The following data refers to sodium nitrate.

**In-vitro genotoxicity**
- Gene-mutations microorganisms: Equivalent or similar to OECD 471, negative (literature information)
- Chromosome aberrations mammalian cells: OECD Guideline 473/EU B.10, negative

**In-vivo genotoxicity**
- In-vivo unscheduled DNA Synthesis (UDS): According to Alavantic, D. (1988), negative (literature information)
- In-vivo micronucleus assay: equivocal (literature information)
- In-vivo chromosome aberrations: equivocal (literature information)

Assessment / classification: Based on available data for the ingredients of the mixture, the classification criteria are not met.

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**Reproductive toxicity**
Adverse effects on sexual function and fertility/developmental toxicity

- OECD guideline 422.
- Main ingredients: No adverse effects on fertility/development (NOAEL >1500 mg/kg bw).
- Assessment / classification: Based on available data for the ingredients of the mixture, the classification criteria are not met.

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**Specific target organ toxicity (single exposure)**
The product does not contain relevant ingredients classified as Target Organ Toxicant.

Practical experience / human evidence
- No relevant effect have been observed after single exposure to the relevant ingredients.
- Assessment / classification: Based on available data for the ingredients of the mixture, the classification criteria are not met.

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**Specific target organ toxicity (repeated exposure)**
The product does not contain relevant ingredients classified as Target Organ Toxicant.

- Organs affected: None
- Effects: No effects (NOAEL >1500 mg/kg bw)
- Guideline: OECD 422
- Assessment / classification: Based on available data for the ingredients of the mixture, the classification criteria are not met.

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**Aspiration hazard**
Physicochemical data and toxicological information does not indicate an aspiration hazard.

- Assessment / classification: Based on available data, the classification criteria are not met.

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**Carcinogenicity**

- International Agency for Research on Cancer (IARC): No component of this product present at levels ≥0.1% is identified as probable, possible or confirmed human carcinogen by IARC.
- National Toxicology Program (NTP): No component of this product present at levels ≥0.1% is identified as known or anticipated carcinogen by NTP.
- 29 CFR part 1910, subpart Z: No component of this product present at levels ≥0.1% is identified as carcinogen or potential carcinogen by OSHA.
- California Proposition 65: No component of this product present at levels ≥0.1% is identified as carcinogen by California Prop.65.

Assessment / classification: Based on available data for the ingredients of the mixture, the classification criteria are not met.

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**Other Toxicological Information**
This product contains trace amounts of naturally-occurring perchlorate and iodate. Like other goitrogenic substances, perchlorate may affect iodine uptake by thyroid under specific conditions.
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12. ECOLOGICAL INFORMATION

There is no data for the mixture itself. The following information mostly refers to the major component of the product.

Ecotoxicity

Aquatic Toxicity
Toxicity estimate for the mixture (summation method)

<table>
<thead>
<tr>
<th>Test Parameter</th>
<th>Concentration</th>
<th>Species</th>
</tr>
</thead>
<tbody>
<tr>
<td>96-h LC50</td>
<td>&gt;100 mg/L</td>
<td>Fish</td>
</tr>
<tr>
<td>24-h EC50</td>
<td>&gt;100 mg/L</td>
<td>Daphnia magna (fresh water flea).</td>
</tr>
<tr>
<td>72-h EC50</td>
<td>&gt; 100 mg/L</td>
<td>Algae</td>
</tr>
</tbody>
</table>

Assessment / classification: Based on available data for the ingredients of the mixture, the classification criteria are not met.

Persistence and degradability

The product contains mainly inorganic nitrate salts. In aqueous compartments, these salts will dissociate into sodium and nitrate ions. Other minor compounds are also expected to be dissociated in their corresponding ions. Sodium ions are not subject to further degradation. Under anoxic conditions, nitrate is subjected to denitrification and is ultimately converted into molecular nitrogen as part of the nitrogen cycle. Nitrate and other oxyanions impurities are likely to be found in oxic compartments.

Bioaccumulative potential

Low potential for bioaccumulation based on physicochemical properties of main components.

Mobility in soil

Nitrate has a low potential for adsorption. Portion not taken up by plants, can leach to groundwater. Sodium can participate in ion exchange processes.

Other adverse effects

Excess nitrate leaching may enrich waters leading to eutrophication.

13. DISPOSAL CONSIDERATIONS

Disposal should be in accordance with applicable federal and state laws.

It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal method in compliance with applicable regulations.

Sodium nitrate waste exhibiting the characteristic of ignitability has the EPA Hazardous Waste Number of D001 according to the Resource Conservation and Recovery Act (RCRA) 40 CFR 261.

Perchlorate containing product - Special handling may apply. See www.dtsc.ca.gov/hazardouswaste/perchlorate and Section 15 for more information regarding California State regulations.

14. TRANSPORTATION INFORMATION

US DOT (49CFR part 172)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-No.</td>
<td>Non dangerous good</td>
</tr>
<tr>
<td>UN Proper Shipping Name</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Hazard class</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing group</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Hazard label(s)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Special marking</td>
<td>No</td>
</tr>
<tr>
<td>Special Provision</td>
<td>No</td>
</tr>
</tbody>
</table>

International Maritime Organization (IMDG Code)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN-No.</td>
<td>Non dangerous good</td>
</tr>
<tr>
<td>UN Proper Shipping Name</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Hazard class</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing group</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Marine pollutant</td>
<td>No</td>
</tr>
<tr>
<td>Hazard label(s)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Special marking</td>
<td>No</td>
</tr>
<tr>
<td>Special Provision</td>
<td>No</td>
</tr>
</tbody>
</table>
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International Civil Aviation Organization (ICAO) and International Air Transport Association (IATA)

<table>
<thead>
<tr>
<th>UN-No.</th>
<th>Non dangerous good</th>
</tr>
</thead>
<tbody>
<tr>
<td>UN Proper Shipping Name</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Hazard class</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Packing group</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Hazard label</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Special marking</td>
<td>No</td>
</tr>
</tbody>
</table>

Special handling procedure
None

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable

Other special precautions
None

15. REGULATORY INFORMATION

US Federal
SARA Title III Rules

Section 311/312 Hazard Classes
Acute Health Hazard: Yes (Irritant)
Chronic Health Hazard: No
Fire Hazard: No
Release of Pressure: No
Reactive Hazard: No

Section 313 Toxic Chemicals
N511 Nitrate compounds (water dissociable; reportable only when in aqueous solution)

Section 302 Extremely Hazardous Substances (EHS)/CERCLA Hazardous Substances
Sodium nitrate is not listed

DHS - Chemical of Interest (Appendix A to 6CFR Part 27)
Sodium nitrate is listed (ACG)

NFPA 704/2012: National Fire Protection Association
Health: 1
Fire: 0
Instability: 0
Special: None

US State Regulations
California Proposition 65
None ingredient is listed.
California Code of Regulations Title 22 (Health & Safety Code), Chapter 33
See http://www.dtsc.ca.gov/hazardouswaste/perchlorate/

Canada
WHMIS 2015 Classification:
Midly irritating to eyes, cat. 2B
Causes eye irritation.

This product has been classified according to the hazard criteria of the 2015 Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

European Union
Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]
Hazard classes and Hazard categories: Hazard statements
Eye Irrit. 2: H319

Chemical Inventories
United States TSCA
All ingredients are listed
Canada DSL
All ingredients are listed
México (INSQ)
All ingredients are listed
European Union (EINECS)
All ingredients are listed
China (IECS)
All ingredients are listed
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Japan (METI)  
Korea (KECI)  

All ingredients are listed  
All ingredients are listed  

16. OTHER INFORMATION  
This SDS complies with 29 CFR part 1910 subpart Z (2012), Canada WHMIS (2015) and ANSI Standard Z400.1-2004  
Data source  
Prepared by  
E-mail  
Date of issue:  
Supersedes  

REACH Registration Dossiers for major components  
Regulatory Affairs Department, SQM  
product_safety@sqm.com  
spn-northamerica@sqm.com  
April 2016  
-

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Indication of changes  