



SAFETY DATA SHEET

NITRO+™ DUO**SECTION 1: Identification of the substance/mixture and of the company****1.1 Product identifier**

| | |
|----------------------------|---------------------|
| Product Name | Nitro+™ DUO |
| Product description | Nitrogen Stabilizer |
| Product type | Liquid |

1.2 Relevant identified uses of the substance or mixture and uses advised against

Not available.

1.3 Details of the supplier of the safety data sheet

| | |
|------------------------------|---|
| Supplier/Manufacturer | AM-AG, LLC 9008 Goliad Dr., Ste. B Pharr, Texas 78577 Tel: (956) 687-AMAG (2624) Fax (956) 781-2627 Web: www.am-ag.com |
|------------------------------|---|

1.4 Emergency Telephone number National advisory body/Poison Control

| | |
|-----------------------------------|-----------------------------------|
| Emergency Telephone number | 708-563-9200 (08:00 – 5:00pm CST) |
| CHEMTREC, US | 1-800-424-9300 (after hours) |

SECTION 2: Hazards identification**2.1 Potential Acute Health Effects:**

Slightly hazardous in case of inhalation (lung irritant). Slightly hazardous in case of skin contact (irritant, permeator), of eye contact (irritant), of ingestion.

2.2 Potential Chronic Health Effects:

Slightly hazardous in case of skin contact (irritant, sensitizer, permeator), of ingestion. CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Mutagenic for mammalian somatic cells. Mutagenic for bacteria and/or yeast. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. The substance may be toxic to blood, kidneys, liver, mucous membranes, skin, eyes. Repeated or prolonged exposure to the substance can produce target organs damage.

Precautionary Statements**Prevention**

P280 – Wear protective gloves. Wear eye or face protection.

P261 – Avoid breathing vapors.

Response

P304 + P340 + P312 – IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or Physician if you feel unwell.

Storage

P405 – Store locked up.

Disposal

P501 – Dispose of contents and container in accordance with all local, regional, national and international regulations.

Safety Phases

Not applicable.

Supplemental label Safety data sheet available for your professional user on request.**Annex XVII – Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles** Not applicable.**Special packaging requirements****Containers to be fitted with child-resistant fastenings** Not applicable.**Tactile warning of danger** Not applicable.**2.3 Other hazards which do not result in classification**

None known.

SECTION 3: Composition/information on ingredients

| Product/ingredient name | Identifiers (EC) No Type | % | Classification | | |
|---|----------------------------------|-------|----------------|--|------|
| | | | 67/548/EEC | Regulation (EC) No. 1272 / 2008 (CLP) | Type |
| Non-butyl Thiophosphonic triamide) NBPT | EC: 435-740-7 CAS: 94317-64-3 | 25-30 | XN: R20/21/22 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 | (1) |
| Dicyandiamide | EC: 207-312-8 CAS: 461-58-5 | 20-25 | XN: R20/21/22 | Skin Irrit. 2, H315 Eye Irrit. 2, H319 STOT SE 3, H335 | (1) |

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, are PBTs or vPvBs or have been assigned a workplace exposure limit and hence require reporting in this section.

Type

[1] Substance classified with a health or environmental hazard

[2] Substance with a workplace exposure limit

[3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII

[4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII

[5] Substance of equivalent concern

Occupational exposure limits, if available, are listed in Section 8.

See Section 16 for the full text of the R-phrases declared above.

See Section 16 for the full text of the H statements declared above.

SECTION 4: First aid measures

4.1 Description of first aid measures

Eye Contact

Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.

Inhalation

Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact

Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.

Ingestion

Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

4.2 Most important symptoms and effects, both acute and delayed

Potential acute health effects

Eye contact No known significant effects or critical hazards.

Inhalation Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

Skin contact No known significant effects or critical hazards.

Ingestion No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact No known significant effects or critical hazards.

Inhalation No known significant effects or critical hazards.

Skin contact No known significant effects or critical hazards.

Ingestion No known significant effects or critical hazards.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician

In case of inhalation of decomposition of products in a fire, symptoms may be delayed.

The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments

No specific treatment.

SECTION 5: Fire fighting measures

5.1 Extinguishing media

Suitable extinguishing media

Use an extinguishing agent suitable for the surrounding fire.

Unsuitable extinguishing media

None known.

5.2 Special hazards arising from the substance or mixture

Hazards from the substance or mixture

No specific fire or explosion hazard.

Hazardous thermal decomposition products

Decomposition products may include the following materials:

carbon dioxide

carbon monoxide

nitrogen oxides

sulfur oxides

phosphorus oxides

5.3 Advice for firefighters:

Special protective actions for fire-fighters

Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode. Clothing for fire-fighters (including helmets, protective boots and gloves) conforming to European standard EN 469 will provide a basic level of protection for chemical incidents.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also Section 8 for additional information on hygiene measures.

6.2 Environmental precautions

Avoid dispersal of spill material and runoff and contact with soil, waterways, drains and sewers. Inform the appropriate authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6.3 Methods and materials for containment and cleaning up

Small spill

Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large Spill

Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations. Dispose of via a licensed waste disposal contractor.

6.4 Reference to other sections

See Section 1 for emergency contact information.

See Section 8 for information on appropriate protective equipment.

See Section 13 for additional waste treatment information

SECTION 7: Handling and storage

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenarios(s).

7.1 Precautions for safe handling

Protective measures Put on appropriate personal protective equipment (see Section 8).

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed.

Workers should wash hands and face before eating, drinking and smoking.

See also Section 8 for additional information on hygiene measures.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

7.3 Specific end use(s)

Recommendations Not available.

Industrial sector specific solutions Not available.

SECTION 8: Exposure control / personal protection

The information in this section contains generic advice and guidance. The list of Identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

8.1 Control parameters

Occupational exposure limits

No exposure limit value known.

Recommended monitoring procedures

If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres – Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy)

European Standard EN 482 (Workplace atmospheres – General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

DNELs/DMELs

No DNELs/DMELs available.

PNECs

No PNECs available.

8.2 Exposure controls

Appropriate engineering controls

No special ventilation requirements. Good general ventilation should be enough to control worker exposure to airborne contaminants.

Individual protection measures

Hygiene measures

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts.

Skin protection

Hand protection

Chemical-resistant, impervious Butyl rubber or Nitrile rubber gloves complying with an approved standard should always be worn when handling chemical products if a risk assessment indicates this is necessary.

Body protection

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Other skin protection

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection

Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Environmental exposure controls

Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation

SECTION 9: Physical and Chemical properties

9.1 Information on basic physical and chemical properties

| | |
|-------------------------------------|---|
| Appearance | |
| Physical state | Clear liquid. |
| Color | Green. |
| Odor | Essentially odorless. |
| Odor threshold | Not available. |
| pH | Not available. |
| Melting point/freezing point | < 4° C. |
| Boiling point | > 190 ° C (374° F). |
| Flash point | 89° C (192° F) close cup. 95° C (203° F) open cup. |
| Evaporation rate | |
| (n-butyl acetate = 1) | 0.02 – 0.03. |
| Flammability (solid, gas) | Not available. |
| Burning time | Not applicable. |
| Burning rate | Not applicable. |
| Upper/lower flammability | LEL : 3.0 vol% – 3.5 vol%. UEL : 42 vol% - 63 vol%. |
| Vapor pressure | 0.55 mBar (0.46 mmHg) @ 20° C (68° F). |
| Vapor density (air = 1) | 2.7. |
| Specific density | 1.11. |
| Solubility in water | Miscible. |
| Partition coefficient | |
| n-octanol/ water | log Pow < -2. |
| Auto-ignition temperature | 300 – 302° C (572 – 575° F) |
| Decomposition temperature | Not available. |
| Viscosity | 8.5 cp @ 20 ° C. |
| Explosive properties | Not available. |
| Oxidizing properties | Not available. |

9.2 Other Information No additional information.

SECTION 10: Stability and reactivity

| | |
|--|--|
| 10.1 Reactivity | Not reactive. |
| 10.2 Chemical stability | Stable. |
| 10.3 Possibility of hazardous reactions | Under normal conditions of storage and use, hazardous reactions will not occur. |
| 10.4 Conditions to avoid | No specific data. |
| 10.5 Incompatible materials | Reactive or incompatible with the following materials: oxidizing materials. |
| 10.6 Hazardous decomposition products | Under normal conditions of storage and use, hazardous decomposition products should not be produced. |

SECTION 11: Toxicological information

11.1 Information on toxicological effects

| | |
|---|-------------------------------|
| Acute toxicity (NBPT) | |
| Acute skin LD50 (Rat) | > 2000 mg/L |
| Acute oral LD50 (Rat) | > 2823 mg/L |
| Acute inhalation | There is no data available |
| Irritation/Corrosion | |
| Skin | Slight irritation |
| Eyes | Moderate to severe irritation |
| Respiratory | There is no data available. |
| Sensitization | |
| Skin | Mild sensitizer. |
| Respiratory | There is no data available. |
| Mutagenicity | There is no data available. |
| Carcinogenicity | There is no data available. |
| Reproductive toxicity | There is no data available. |
| Teratogenicity | There is no data available. |
| Specific target organ toxicity (single exposure) | There is no data available. |
| Specific target organ toxicity (repeated exposure) | There is no data available. |
| Aspiration hazard | There is no data available. |

Information on the likely routes of exposure Dermal contact. Eye contact. Inhalation. Ingestion.

Potential acute health effects

| | |
|---------------------|---|
| Eye contact | Causes moderate to severe irritation to eyes |
| Inhalation | Not expected to cause adverse effects with adequate ventilation |
| Skin contact | May be irritation to the skin |
| Ingestion | Product may be slightly toxic |

Symptoms related to the physical, chemical and toxicological characteristics

| | |
|---------------------|---|
| Eye contact | No known significant effects or critical hazards. |
| Inhalation | No known significant effects or critical hazards. |
| Skin contact | No known significant effects or critical hazards. |
| Ingestion | No known significant effects or critical hazards. |

Delayed and immediate effects and chronic effects from short and long-term exposure

Short term exposure

| | |
|------------------------------------|---|
| Potential immediate effects | No known significant or critical hazards. |
| Potential delayed effects | No known significant or critical hazards. |

Long term exposure

| | |
|------------------------------------|---|
| Potential immediate effects | No known significant or critical hazards. |
| Potential delayed effects | No known significant or critical hazards. |

Potential chronic health effects

| | |
|------------------------------|---|
| General | No known significant or critical hazards. |
| Carcinogenicity | No known significant or critical hazards. |
| Mutagenicity | No known significant or critical hazards. |
| Teratogenicity | No known significant or critical hazards. |
| Developmental effects | No known significant or critical hazards. |
| Fertility effects | No known significant or critical hazards. |

| | |
|--------------------------|----------------|
| Other information | Not available. |
|--------------------------|----------------|

SECTION 12: Ecological information

12.1 ECO Toxicity (NBPT)

NBPT has a low toxicity for aquatic organisms and has no effect on the growth of soil bacterial populations.

Acute aquatic toxicity (NBPT)

| | |
|--------------------------------------|-----------|
| 96 Hours LC50 (Bluegill) | 1140 mg/L |
| 48 Hours EC50 (Daphnia magna) | 290 mg/L |
| LC50 (Daphnia magna) | 350 mg/L |
| NOEL (Daphnia magna) | 150 mg/L |
| NOEL (Freshwater algae) | 75 mg/L |

12.2 Persistence and degradability

There is no data available.

12.3 Bio accumulative potential

There is no data available.

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc})
Mobility

Not available.

Not available.

12.5 Results of PBT and vPvB assessment

PBT

Not applicable.

P: Not available. B: Not available. T: Not available.

vPvB

Not applicable.

vP: Not applicable. vB: Not available.

12.6 Other adverse effects

No known significant effects or critical hazards.

SECTION 13: Disposal considerations

The information in this section contains generic advice and guidance. The list of identified Uses in Section 1 should be consulted for any available use-specific information provided in the Exposure Scenario(s).

13.1 Waste treatment methods

Product

Methods of disposal

The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should 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.

Hazardous waste

Within the present knowledge of the supplier, this product is not regarded as hazardous waste, as defined by EU Directive 91/689/EEC.

Packaging

Methods of disposal

The generation of waste should be avoided or minimized wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions

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 split material and runoff and contact with soil, waterways drain and sewers.

SECTION 14: Transport Information

| | ADR/RID | ADN | IMDG | IATA |
|-------------------------------|----------------|----------------|----------------|----------------|
| 14.1 UN number | Not regulated. | Not regulated. | Not regulated. | Not regulated. |
| 14.2 UN proper Shipping name | - | - | - | - |
| 14.3 Transport Hazard classes | - | - | - | - |
| 14.4 Packing group | - | - | - | - |
| 14.5 Environmental Hazards | No. | No. | No. | No. |
| Additional Information | - | - | - | - |

14.6 Special precautions for user Transport within user's premises:

Always transport in closed containers that are upright and secure. Ensure that person transporting the product knows what to do in the event of an accident or spillage.

14.7 Transport in bulk Not available

According to Annex II of MARPOL 73/78 and the IBC Code

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/ legislation specific for substance of mixture

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV-List of substances subject to authorization

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII-Restrictions

Not applicable

On the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles

15.2 Chemical Safety

This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

Abbreviations and acronyms

ATE=Acute Toxicity Estimate

CLP=Classification, Labeling and Packaging Regulation [Regulation (EC) No. 1272/2008]

DMEL=Derived Minimal Effect Level

DNEL=Derived No Effect Level

EUH statement=CLP-specific Hazard statement

PBT=Persistent, Bio accumulative and Toxic

PNEC=Predicted No Effect Concentration

RRN=REACH Registration Number

vPvB=Very Persistent and Very Bioaccumulative

Classifications according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Skin Irrit. 2, H315

Eye Irrit. 2, H319

STOT SE 3 H335

Procedure used to derive the classification according to Regulation (EC) NO. 1272/2008 [CLP/GHS]

| Classification | Justification |
|---------------------|--------------------|
| Skin Irrit. 2, H315 | Calculation method |
| Eye Irrit. 2, H319 | Calculation method |
| STOT SE 3, H335 | Calculation method |

Full text of abbreviated H Statements

H315 Causes skin irritation

H319 Causes eye irritation.

H335 May cause respiratory irritation.

Full text of classification [CLP/GHS]

Eye Irrit. 2, H319 SERIOUS EYE DAMAGE/ EYE IRRITATION-Category 2

Skin Irrit. 2, H315 SKIN CORROSINON/IRRITATION-Category 2

STOT SE 3, H335 SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) Respiratory tract irritation]-Category 3

Full text of abbreviated R Phrases R20/21/22-Harmful by inhalation, in contact with skin and if swallowed.

Full text of classifications [DSD/DPD] Xn Harmful

History

Date of issue (dd/mm/yyyy) 15/06/2013

Version

Revised Section(s) Not applicable

Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy of completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All material may present unknown hazards and should be use with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.