# Product Information Sheet

YaraLiva™ High Grader Plus

**NOTE: THIS IS NOT A MATERIAL SAFETY DATA SHEET SINCE NONE IS REQUIRED FOR THIS PRODUCT. IT IS PROVIDED FOR EMPLOYEE INFORMATION ONLY.**

## Section 1. Chemical product and company identification

**Trade name** : YaraLiva™ High Grader Plus

**Manufacturer** : Yara North America, Inc
100 North Tampa Street
Suite 3200
P.O. Box 24926
Tampa, FL 33623
USA
Tel: +1 813 222 5700
Fax: +1 813 875 5735

**Validation date** : **2008-06-18.**

**Print date** : 2008-06-18.

**Responsible name** : Bill Easterwood

**In case of emergency** : Additional Product Information: 813-222-5700
or Chemtrec 24-hours Emergency Resonse: 1-800-424-9300

## Section 2. Composition, information on ingredients

| Name | CAS number | % by weight |
|---|---|---|
| No hazardous ingredients. | | |

**Additional information**

| Contains: | CAS number |
|---|---|
| Hydrated Ammonium Calcium Nitrate Double Salt | 15245-12-2 |
| Ammonium Thiosulfate | 7783-18-8 |
| Potassium Nitrate | 7757-79-1 |
| Magnesium Nitrate | 10213-15-7 |
| Boric acid | 11113-50-1 |
| Copper EDTA | 14025-15-1 |
| Manganese Nitrate | 15710-66-4 |
| Zinc Nitrate | 10196-18-6 |

## Section 3. Hazards identification

**Physical state** : Liquid.

**Emergency overview** : CAUTION!

MAY BE HARMFUL IF SWALLOWED. MAY CAUSE RESPIRATORY TRACT, EYE AND SKIN IRRITATION.

Do not ingest. Wash thoroughly after handling.

**Potential acute health effects**

**Eyes** : Slightly irritating to the eyes.

**Skin** : Slightly irritating to the skin.

**Inhalation** : Slightly irritating to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.

**Ingestion** : Harmful if swallowed.

**Carcinogenic effects** : No known significant effects or critical hazards.

**Mutagenic effects** : No known significant effects or critical hazards.

**Reproduction toxicity** : No known significant effects or critical hazards.

**See toxicological Information (section 11)**

## Section 4. First aid measures

**Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.

**Skin contact** : In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.

**Inhalation** : Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.

**Ingestion** : Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

## Section 5. Fire fighting measures

**Flammability of the product** : May be combustible at high temperature.

**Products of combustion** : These products are
nitrogen oxides
sulfur oxides
metal oxide/oxides

**Fire-fighting media and instructions** : In case of fire, use water spray (fog), foam, dry chemical or $CO_2$.

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.

## Section 6. Accidental release measures

**Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see section 8).

**Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

**Methods for cleaning up** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. 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 (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## Section 7. Handling and storage

**Handling** : Avoid contact with eyes, skin and clothing. Avoid breathing vapors, spray or mists.

**Storage** : Keep container tightly closed. Keep container in a cool, well-ventilated area. Keep away from heat and direct sunlight.

## Section 8. Exposure controls/personal protection

**Engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Personal protection**

**Eyes** : 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, gases or dusts.
Recommended: splash goggles

**Skin** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved.

**Respiratory** : 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.

**Hands** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
>8 hours (breakthrough time): butyl rubber , natural rubber (latex) , nitrile rubber .

**Personal protective equipment (Pictograms)** :

**Personal protection in case of a large spill** : Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be adequate. Consult a specialist before handling this product.

**Consult local authorities for acceptable exposure limits.**

## Section 9. Physical and chemical properties

**Physical state** : Liquid.

**Color** : Clear. Green.

**Odor** : Faint odor.

**pH** : 6,8 to 7,3

**Boiling/condensation point** : 105°C (221°F)

**Density (lbs/gal)** : 10.4

## Section 10. Stability and reactivity

**Stability and reactivity** : Stable under recommended storage and handling conditions (see section 7).

**Incompatibility with various substances** : Reactive or incompatible with the following materials: oxidizing materials, reducing materials, combustible materials, organic materials, metals and acids.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

**Hazardous polymerization** : Under normal conditions of storage and use, hazardous polymerization will not occur.

## Section 11. Toxicological information

**Other toxic effects on humans** : No specific information is available in our database regarding the other toxic effects of this material to humans.

# Section 12. Ecological information

| Ingredient name | Species | Period | Result |
|---|---|---|---|
| Preparation | Fish (LC50) | 96 hour(s) | >100 mg/l |

**Special remarks on the products of biodegradation** : The product does not show any bioaccumulation phenomena.

# Section 13. Disposal considerations

**Waste disposal** : The generation of waste should be avoided or minimized wherever possible. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe way. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

**Consult your local or regional authorities.**

# Section 14. Transport information

| Regulatory information | UN number | Proper shipping name | Class | Packing group | Label | Additional information |
|---|---|---|---|---|---|---|
| DOT Classification | Not regulated. | - | - | - | | - |
| TDG Classification | Not regulated. | - | - | - | | - |

# Section 15. Regulatory information

**HCS Classification** : Not regulated.

**U.S. Federal regulations** : **United States inventory (TSCA 8b):** Not determined.

**SARA 302/304/311/312 extremely hazardous substances**: No products were found.
**SARA 302/304 emergency planning and notification**: No products were found.
**SARA 302/304/311/312 hazardous chemicals**: Potassium Nitrate; ammonium thiosulfate
**SARA 311/312 MSDS distribution - chemical inventory - hazard identification**: Potassium Nitrate: Fire hazard, Delayed (chronic) health hazard; ammonium thiosulfate: Immediate (acute) health hazard

**Clean Water Act (CWA) 307**: cuprate(2-), [[n,n'-1,2-ethanediylbis[n-(carboxymethyl)glycinato]](4-)-n,n',o,o',on,on']-, disodium, (oc-6-21)-; zinc nitrate

**Clean Water Act (CWA) 311**: zinc nitrate; Ammonia

**Clean Air Act (CAA) 112 accidental release prevention**: No products were found.

**Clean Air Act (CAA) 112 regulated flammable substances**: No products were found.

**Clean Air Act (CAA) 112 regulated toxic substances**: No products were found.

**SARA 313**

**Form R - Reporting requirements** :

| Product name | CAS number | Concentration |
|---|---|---|
| Potassium Nitrate | 7757-79-1 | 15 |
| Magnesium nitrate hexahydrate | 13446-18-9 | 7 |
| ammonium thiosulfate | 7783-18-8 | 4.13 |

**Supplier notification** :

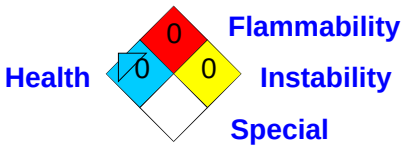
| Product name | CAS number | Concentration |
|---|---|---|
| Potassium Nitrate | 7757-79-1 | 15 |
| Magnesium nitrate hexahydrate | 13446-18-9 | 7 |
| ammonium thiosulfate | 7783-18-8 | 4.13 |

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

**State regulations** : **Connecticut Carcinogen Reporting**: None of the components are listed.
**Connecticut Hazardous Material Survey**: None of the components are listed.
**Florida substances**: None of the components are listed.
**Illinois Chemical Safety Act**: None of the components are listed.
**Illinois Toxic Substances Disclosure to Employee Act**: None of the components are listed.
**Louisiana Reporting**: None of the components are listed.
**Louisiana Spill**: None of the components are listed.
**Massachusetts Spill**: None of the components are listed.
**Massachusetts Substances**: The following components are listed: AMMONIUM THIOSULFATE
**Michigan Critical Material**: None of the components are listed.
**Minnesota Hazardous Substances**: None of the components are listed.
**New Jersey Hazardous Substances**: The following components are listed: AMMONIUM THIOSULFATE
**New Jersey Spill**: None of the components are listed.
**New Jersey Toxic Catastrophe Prevention Act**: None of the components are listed.
**New York Acutely Hazardous Substances**: None of the components are listed.
**New York Toxic Chemical Release Reporting**: None of the components are listed.
**Pennsylvania RTK Hazardous Substances**: The following components are listed: THIOSULFURIC ACID (H2S2O3), DIAMMONIUM SALT
**Rhode Island Hazardous Substances**: None of the components are listed.

## Section 16. Other information

**National Fire Protection Association (U.S.A.)** :

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**Version** : **3**

**Indicates information that has changed from previously issued version.**

**Notice to reader**

**To the best of our knowledge, the information provided in this Safety Data Sheet is accurate as at the date of its issue. The information it contains is being given for safety guidance purposes and relates only to the specific material and uses described in it. This information does not necessarily apply to that material when combined with other material(s) or when used otherwise than as described herein. Final determination of the suitability of any material is the sole responsibility of the user. All materials may represent unknown hazards and should be used with caution. Yara International ASA disclaims any liability for loss or damage resulting from the use of any data, information or recommendations set out in this Safety Data Sheet.**