

1. Identification

Product identifier AgraCity 10-40-8

Other means of identification

Product code 628000

Recommended use Soil additive, micronutrient.

Recommended restrictions None known.

Manufacturer/Importer/Supplier/Distributor information

Company name Advanced Micronutrient Products

Address 2405 W. Vassar Road (M-15)
Reese, MI 48757

Telephone General information:
800-292-3672 or 989-752-2138

Contact person Product Stewardship

E-mail info@ampmicros.com

Emergency phone number 800-424-9300 CCN 724829

2. Hazard identification

Physical hazards Not classified.

Health hazards Serious eye damage/eye irritation Category 2B

Environmental hazards Hazardous to the aquatic environment, acute hazard Category 2

Hazardous to the aquatic environment, long-term hazard Category 2

Label elements



Signal word Warning

Hazard statement Causes eye irritation. Toxic to aquatic life with long lasting effects.

Precautionary statement

Prevention Wash thoroughly after handling. Avoid release to the environment.

Response 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. Collect spillage.

Storage Store away from incompatible materials.

Disposal Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards None known.

Supplemental information None.

3. Composition/information on ingredients

Mixtures

| Chemical name | Common name and synonyms | CAS number | % |
|------------------------|--------------------------|------------|---------|
| Monoammonium phosphate | | 7722-76-1 | 65 - 85 |
| Potassium chloride | | 7447-40-7 | 10 - 30 |
| Sulphur | | 7704-34-9 | 1 - 5 |

| | | |
|-----------------|-----------|---------|
| Zinc oxide | 1314-13-2 | 0.5-1.5 |
| Dicopper oxide | 1317-39-1 | 0.1 - 1 |
| Iron oxide | 1309-37-1 | 0.1 - 1 |
| Manganese oxide | 1344-43-0 | 0.1 - 1 |

4. First-aid measures

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| Inhalation | Move to fresh air. Call a physician if symptoms develop or persist. |
| Skin contact | Wash off with soap and water. Get medical attention if irritation develops and persists. |
| Eye contact | Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. |
| Ingestion | Rinse mouth. Get medical attention if symptoms occur. |
| Most important symptoms/effects, acute and delayed | Dusts may irritate the respiratory tract, skin and eyes. Irritation of eyes. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. |
| Indication of immediate medical attention and special treatment needed | Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed. |
| General information | If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. |

5. Fire-fighting measures

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| Suitable extinguishing media | Water fog. Foam. Dry chemical powder. Carbon dioxide (CO ₂). |
| Unsuitable extinguishing media | Do not use water jet as an extinguisher, as this will spread the fire. |
| Specific hazards arising from the chemical | During fire, gases hazardous to health may be formed. |
| Special protective equipment and precautions for firefighters | Material can be slippery when wet. |
| Fire fighting equipment/instructions | Use water spray to cool unopened containers. |
| Specific methods | Use standard firefighting procedures and consider the hazards of other involved materials. |
| General fire hazards | No unusual fire or explosion hazards noted. |

6. Accidental release measures

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| Personal precautions, protective equipment and emergency procedures | Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits. For personal protection, see section 8 of the SDS. |
| Methods and materials for containment and cleaning up | Avoid the generation of dusts during clean-up. Collect dust using a vacuum cleaner equipped with HEPA filter. This product is miscible in water. Stop the flow of material, if this is without risk. Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water. Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the SDS. |
| Environmental precautions | Avoid discharge into drains, water courses or onto the ground. |

7. Handling and storage

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| Precautions for safe handling | Minimise dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Practice good housekeeping. |
| Conditions for safe storage, including any incompatibilities | Store in tightly closed container. Store away from incompatible materials (see section 10 of the SDS). |

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

| Components | Type | Value | Form |
|---------------------------------|------|------------|----------------------|
| Dicopper oxide (CAS 1317-39-1) | TWA | 1 mg/m3 | Dust and mist. |
| | | 0.2 mg/m3 | Fume. |
| Iron oxide (CAS 1309-37-1) | TWA | 5 mg/m3 | Respirable fraction. |
| Manganese oxide (CAS 1344-43-0) | TWA | 0.1 mg/m3 | Inhalable fraction. |
| | | 0.02 mg/m3 | Respirable fraction. |
| Zinc oxide (CAS 1314-13-2) | STEL | 10 mg/m3 | Respirable fraction. |
| | TWA | 2 mg/m3 | Respirable fraction. |

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

| Components | Type | Value | Form |
|---------------------------------|------|-----------|-------------|
| Iron oxide (CAS 1309-37-1) | TWA | 5 mg/m3 | Respirable. |
| Manganese oxide (CAS 1344-43-0) | TWA | 0.2 mg/m3 | |
| Sulphur (CAS 7704-34-9) | TWA | 10 mg/m3 | |
| Zinc oxide (CAS 1314-13-2) | STEL | 10 mg/m3 | Respirable. |
| | TWA | 2 mg/m3 | Respirable. |

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

| Components | Type | Value | Form |
|---------------------------------|------|-----------|----------------------|
| Iron oxide (CAS 1309-37-1) | STEL | 10 mg/m3 | Fume. |
| | | 5 mg/m3 | Fume. |
| | | 5 mg/m3 | Dust. |
| | | 3 mg/m3 | Respirable fraction. |
| | | 10 mg/m3 | Total dust. |
| Manganese oxide (CAS 1344-43-0) | TWA | 0.2 mg/m3 | |
| Zinc oxide (CAS 1314-13-2) | STEL | 10 mg/m3 | Respirable. |
| | TWA | 2 mg/m3 | Respirable. |

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

| Components | Type | Value | Form |
|---------------------------------|------|------------|----------------------|
| Dicopper oxide (CAS 1317-39-1) | TWA | 1 mg/m3 | Dust and mist. |
| | | 0.2 mg/m3 | Fume. |
| Iron oxide (CAS 1309-37-1) | TWA | 5 mg/m3 | Respirable fraction. |
| Manganese oxide (CAS 1344-43-0) | TWA | 0.1 mg/m3 | Inhalable fraction. |
| | | 0.02 mg/m3 | Respirable fraction. |
| Zinc oxide (CAS 1314-13-2) | STEL | 10 mg/m3 | Respirable fraction. |
| | TWA | 2 mg/m3 | Respirable fraction. |

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

| Components | Type | Value | Form |
|---------------------------------|------|-----------|----------------------|
| Iron oxide (CAS 1309-37-1) | TWA | 5 mg/m3 | Respirable fraction. |
| Manganese oxide (CAS 1344-43-0) | TWA | 0.2 mg/m3 | |
| Zinc oxide (CAS 1314-13-2) | STEL | 10 mg/m3 | Respirable fraction. |

Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)

| Components | Type | Value | Form |
|------------|------|---------|----------------------|
| | TWA | 2 mg/m3 | Respirable fraction. |

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

| Components | Type | Value | Form |
|---------------------------------|------|-----------|-------------------|
| Iron oxide (CAS 1309-37-1) | TWA | 5 mg/m3 | Dust and fume. |
| | | 10 mg/m3 | Total dust. |
| Manganese oxide (CAS 1344-43-0) | TWA | 0.2 mg/m3 | Fume, total dust. |
| Zinc oxide (CAS 1314-13-2) | STEL | 10 mg/m3 | Fume. |
| | TWA | 5 mg/m3 | Fume. |
| | | 10 mg/m3 | Total dust. |

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

| Components | Type | Value | Form |
|---------------------------------|-----------|-----------|---------------------------------------|
| Iron oxide (CAS 1309-37-1) | 15 minute | 20 mg/m3 | |
| | 8 hour | 10 mg/m3 | |
| Manganese oxide (CAS 1344-43-0) | 15 minute | 0.6 mg/m3 | |
| | 8 hour | 0.2 mg/m3 | |
| Zinc oxide (CAS 1314-13-2) | 15 minute | 10 mg/m3 | Respirable fraction and dust or fume. |
| | 8 hour | 2 mg/m3 | Respirable fraction and dust or fume. |

Biological limit values

No biological exposure limits noted for the ingredient(s).

Appropriate engineering controls

If material is ground, cut, or used in any operation which may generate dusts, use appropriate local exhaust ventilation to keep exposures below the recommended exposure limits.

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles).

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.

Other

Wear suitable protective clothing.

Respiratory protection

Use a NIOSH/MSHA approved respirator if there is a risk of exposure to dust/fume at levels exceeding the exposure limits.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties**Appearance**

Granular.

Physical state

Solid.

Form

Solid. Granular.

Colour

Grey. Tan. Brown. Black.

Odour

Not available.

Odour threshold

Not available.

pH

5 - 7

Melting point/freezing point

Not available.

Initial boiling point and boiling range

Not applicable.

Flash point

Not applicable.

Evaporation rate

Not available.

| | |
|---|--------------------------------------|
| Flammability (solid, gas) | Not applicable. |
| Upper/lower flammability or explosive limits | |
| Flammability limit - lower (%) | Not available. |
| Flammability limit - upper (%) | Not available. |
| Explosive limit - lower (%) | Not available. |
| Explosive limit – upper (%) | Not available. |
| Vapour pressure | Not available. |
| Vapour density | Not available. |
| Relative density | Not available. |
| Solubility(ies) | |
| Solubility (water) | 80 - 95 % (20 °C) Soluble (10 - 99%) |
| Partition coefficient (n-octanol/water) | Not available. |
| Auto-ignition temperature | Not available. |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Explosive properties | Not explosive. |
| Oxidising properties | Not oxidising. |
| Particle size | 2.3 - 3.2 µm |

10. Stability and reactivity

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|---|---|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | No dangerous reaction known under conditions of normal use. |
| Conditions to avoid | Contact with incompatible materials. |
| Incompatible materials | Strong oxidising agents. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|--|
| Inhalation | Dust may irritate respiratory system. Prolonged inhalation may be harmful. |
| Skin contact | Dust or powder may irritate the skin. |
| Eye contact | Causes eye irritation. |
| Ingestion | May cause discomfort if swallowed. |

Symptoms related to the physical, chemical and toxicological characteristics Causes eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Dusts may irritate the respiratory tract, skin and eyes.

Information on toxicological effects

Acute toxicity

| Components | Species | Test Results |
|--------------------------------|---------|------------------------|
| Dicopper oxide (CAS 1317-39-1) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | > 2000 mg/kg, 24 hours |
| Inhalation | | |
| LC50 | Rat | 2.92 mg/l, 4 hours |

| Components | Species | Test Results |
|--|---------|------------------------------------|
| Oral LD50 | Rat | 928 - 2000 mg/kg |
| Potassium chloride (CAS 7447-40-7) | | |
| Acute Oral LD50 | Rat | 3020 mg/kg |
| Sulphur (CAS 7704-34-9) | | |
| Acute Dermal LD50 | Rabbit | > 2000 mg/kg |
| Inhalation <i>Dust</i> LC50 | Rat | > 5430 mg/m ³ , 4 Hours |
| Oral LD50 | Rat | > 2000 mg/kg |

Skin corrosion/irritation Dust may irritate skin.

Serious eye damage/eye irritation Causes eye irritation.

Respiratory or skin sensitisation

Respiratory sensitisation Not a respiratory sensitiser.

Skin sensitisation Not a skin sensitiser.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

ACGIH Carcinogens

Iron oxide (CAS 1309-37-1) A4 Not classifiable as a human carcinogen.

Manganese oxide (CAS 1344-43-0) A4 Not classifiable as a human carcinogen.

Canada - Manitoba OELs: carcinogenicity

Iron oxide (CAS 1309-37-1) Not classifiable as a human carcinogen.

Manganese oxide (CAS 1344-43-0) Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Iron oxide (CAS 1309-37-1) 3 Not classifiable as to carcinogenicity to humans.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects.

| Components | Species | Test Results |
|------------------------------------|---------|--|
| Potassium chloride (CAS 7447-40-7) | | |
| Aquatic | | |
| Crustacea | EC50 | Water flea (Daphnia magna) 149 mg/l, 48 hours |
| Fish | LC50 | Western mosquitofish (Gambusia affinis) 435 mg/l, 96 hours |
| Zinc oxide (CAS 1314-13-2) | | |
| Aquatic | | |
| Crustacea | LC50 | Water flea (Daphnia magna) 0.098 mg/l, 48 Hours |

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

| | |
|------------------------------|---|
| Mobility in soil | The product is soluble in water. Expected to be mobile in soil. |
| Other adverse effects | No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component. |

13. Disposal considerations

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|--|--|
| Disposal instructions | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. |
| Local disposal regulations | Dispose in accordance with all applicable regulations. |
| Hazardous waste code | The waste code should be assigned in discussion between the user, the producer and the waste disposal company. |
| Waste from residues / unused products | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions). |
| Contaminated packaging | Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal. |

14. Transport information

| | |
|-------------------------------------|---|
| TDG | |
| UN number | UN3077 |
| UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide, Dicopper oxide) |
| Transport hazard class(es) | |
| Class | 9 |
| Subsidiary risk | - |
| Packing group | III |
| Environmental hazards | Yes |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

| | |
|-------------------------------------|---|
| IATA | |
| UN number | UN3077 |
| UN proper shipping name | Environmentally hazardous substance, solid, n.o.s. (Zinc oxide, Dicopper oxide) |
| Transport hazard class(es) | |
| Class | 9 |
| Subsidiary risk | - |
| Packing group | III |
| Environmental hazards | Yes |
| ERG Code | 9L |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

| | |
|-------------------------------------|---|
| IMDG | |
| UN number | UN3077 |
| UN proper shipping name | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide, Dicopper oxide) |
| Transport hazard class(es) | |
| Class | 9 |
| Subsidiary risk | - |
| Packing group | III |
| Environmental hazards | |
| Marine pollutant | Yes |
| EmS | F-A, S-F |
| Special precautions for user | Read safety instructions, SDS and emergency procedures before handling. |

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

15. Regulatory information

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|--|--|
| Canadian regulations | This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR. |
| Controlled Drugs and Substances Act | |
| Not regulated. | |
| Export Control List (CEPA 1999, Schedule 3) | |
| Not listed. | |
| Greenhouse Gases | |
| Not listed. | |

Ontario. Toxic Substances. Toxic Reduction Act, 2009. Regulation 455/09 (July 1, 2011)

Dicopper oxide (CAS 1317-39-1)
 Manganese oxide (CAS 1344-43-0)
 Zinc oxide (CAS 1314-13-2)

Precursor Control Regulations

Not regulated.

International regulations**Stockholm Convention**

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto Protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|-------------------------------|
| Australia | Australian Inventory of Chemical Substances (AICS) | Yes |
| Canada | Domestic Substances List (DSL) | No |
| Canada | Non-Domestic Substances List (NDSL) | No |
| China | Inventory of Existing Chemical Substances in China (IECSC) | No |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | No |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | No |
| Korea | Existing Chemicals List (ECL) | No |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | No |
| Taiwan | Taiwan Chemical Substance Inventory (TCSI) | No |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory | No |

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

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|----------------------|------------------|
| Issue date | 27-February-2019 |
| Revision date | - |
| Version No. | 01 |

Disclaimer

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