

1. IDENTIFICATION OF THE SUBSTANCE AND OF THE COMPANY UNDERTAKING

1.1 Product identifier

Product name GRAVITY® S 20-20-20

1.2 Relevant use of the product

Applications Soluble Fertilizer

1.3 Distributed By:

Name Winfield Solutions, LLC
Address P.O. Box 64589
St. Paul, MN 55164-0589

Non-Emergency 1-855-494-6343
Business Inquiries: Mon-Fri 8am - 5pm (Central Standard Time)

1.4 Emergency phone number(s)

Medical Emergencies: 1-877-424-7452 (24 hrs)

For Chemical Emergency, Spill Leak Fire, Exposure or Accident, Call: CHEMTREC 1-800-424-9300 (24 hrs)

2. HAZARDS IDENTIFICATION

2.1. The hazard classification of the chemical according to HCS 2012 (US-GHS)

Health hazards

Acute Oral Tox. 4
Skin Irrit. 2
Eye Irrit. 2A
STOT SE 3
Repro. Tox. 2

2.2. Hazard symbols



2.3. Signal word

Warning

2.4 Hazard statements

H302 Harmful if swallowed
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.
H361 Suspected of damaging fertility or the unborn child.

2.5. Precautionary statements

Prevention P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P261 Avoid breathing dust.
P264 Wash hands thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P271 Use only outdoors or in a well-ventilated area.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312 Call a POISON CENTER/doctor if you feel unwell.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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P337+P313 If eye irritation persists: Get medical advice/attention.
P301+P312 IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell.
P330 Rinse mouth.
P302+P352 IF ON SKIN: Wash with plenty of water.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.
P308+P313 If exposed or concerned: Get medical advice/attention.
P405 Store locked up.
P501 Dispose of contents/container in accordance with Federal, state and local regulations.

- Storage
Disposal
- 2.6. **Description of any hazards not otherwise classified** Not applicable.
- 2.7. **% ingredient(s) with unknown acute toxicity** Not applicable.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS-Nr.	Concentration %
Potassium nitrate	7757-79-1	C = 42.3 %
Monoammonium phosphate	7722-76-1	C = 31.7 %
Urea	57-13-6	C = 21.6 %
Monopotassium phosphate	7778-77-0	C = 1.3 %
Polyhydroxycarboxylic acid	-	C = 1.0 %
EDTA Iron	-	C = 0.8 %
EDTA Manganese	-	C = 0.4 %
EDTA zinc	-	C = 0.3 %
EDTA Copper	-	C = 0.3 %
Boric acid	10043-35-3	C = 0.1 %
Sodium Molybdate	10102-40-6	C = 0.03 %

4. FIRST AID MEASURES

4.1 First Aid measures after Inhalation

Following inhalation Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Use oxygen as required, provided by a qualified operator. Get medical attention if irritation develops and persists.

4.2 First Aid measures after Skin exposure

Following skin contact Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Wash contaminated clothing before re-use. Get medical attention if irritation develops and persists.

4.3 First Aid measures after Eye exposure

Following eye contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation develops and persists.

4.4 First Aid measures after Ingestion

Following ingestion Do not induce vomiting unless told to do so by a doctor or physician. Rinse mouth. Never give anything by mouth to an unconscious person. Drink 1 or 2 glasses of water. Do not give milk or alcoholic beverages. Call a physician.

4.5 Most important symptoms and effects, both acute and delayed

INHALATION	Respiratory irritation.
SKIN	Mild skin irritation and redness.
EYES	Causes serious eye irritation.
INGESTION	May be fatal if a large quantity has been ingested: Abdominal pain. Diarrhea. Nausea. Vomiting. May cause drowsiness and loss of coordination.

4.6 Indication of any immediate medical attention and special treatment needed

Notes to physician: Treat symptomatically.

5. FIREFIGHTING MEASURES

5.1 Extinguishing media

Suitable:

Use extinguishing agent suitable for type of surrounding fire. Avoid excessive water to minimize runoff. Prevent firefighter water from entering the environment.

Small fires: Water spray, foam, dry chemical or CO2

Large fires: Water spray, fog or foam.

Unsuitable: None known.

5.2 Special hazards arising from chemical or mixture during the fire

Do not allow run-off from firefighting to enter drains or water courses. Explosive reactions with oxidizing agents such as potassium chlorate and/or peroxides. In case of fire hazardous decomposition products may be produced such as:

- Sulphur oxides
- Ammonia
- Carbon monoxide
- Carbon dioxide (CO2)

5.3 Special Protective Precautions or equipment for firefighters

In the event of fire and/or explosion do not breathe fumes. In the case of respirable dust and/or fumes, use self-contained breathing apparatus and dust impervious protective suit.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment

Wear personal protective equipment.

6.2 Emergency procedures

Unprotected persons must be kept away.

Evacuate personnel to safe areas.

Provide adequate ventilation.

Avoid dust formation.

Avoid breathing dust.

Avoid contact with skin, eyes and clothing.

6.3 Methods and materials used for containment

Do not flush into surface water or sanitary sewer system.

Prevent further leakage or spillage if safe to do so.

Do not let product enter drains.

6.4 Clean-up procedures

Use mechanical handling equipment.

Clean contaminated surface thoroughly.

Pick up and arrange disposal without creating dust.

Use a suitable vacuum cleaner.

7. HANDLING AND STORAGE

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7.1 Precautions for safe handling

Handle with care.
Wear personal protective equipment.
Use only in well-ventilated areas.
Avoid dust formation.
Provide exhaust ventilation if dust is formed.
Dust must be extracted directly at the point of origin.
Avoid breathing dust.
Avoid contact with skin, eyes and clothing.

7.2 Conditions for safe storage

Keep containers tightly closed in a dry, cool and well-ventilated place.
Containers should be protected against falling down.
Containers which are opened must be carefully resealed and kept upright to prevent leakage.
Store away from incompatible substances.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 ACGIH-Threshold Limit Value (TLV)

Exposure limit values of the components: No specific limits have been established all ingredients in this product. As a guideline, ACGIH (United States) has established the following limits which are generally recognized for inert or nuisance dust. Particulates (insoluble) Not Otherwise Classified (PNOC): 10mg/cu.m. Inhalable Particulate 8-Hours TWA TLV, 3mg/cu.m. Respirable Particulate TWA_TLV.

8.2 OSHA-Permissible Exposure Limit (PEL)

Exposure limit values of the components: No specific limits have been established for all ingredients in this product. As a guideline, OSHA (United States) has established the following limits which are generally recognized for inert or nuisance dust. Particulates Not Otherwise Regulated (PNOR): 5mg/cu.m. Respirable dust 8-Hour TWA PEL, 15mg/cu.m. Total dust 8-Hour TWA PEL.

8.3 Any other exposure limit used or recommended by chemical manufacturer

Non-applicable

8.4 Engineering Controls

Provide exhaust ventilation if dust is formed. Dust must be extracted directly at the point of origin. Apply technical measures to comply with the occupational exposure limits.

8.5 Personal Protective Equipment

Hand protection: Gloves

Gloves must be inspected prior to use. Replace when worn.

Eye protection: Do not wear contact lenses.

Wear as appropriate: Safety glasses with side-shields

Body protection: Long sleeved shirt, long pants and shoes plus socks.

Respiratory protection: A NIOSH approved air purifying respirator with a type 95 (R or P) particulate filter may be used under conditions where airborne concentrations are expected to exceed exposure limits. Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air supplied respirator if there is potential for uncontrolled release, exposure levels are not known or any other circumstances where air purifying respirators may not provide adequate protection. A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed if workplace conditions warrant a respirator use.

Hygiene measures: Wash hands before breaks and at the end of workday. Remove and wash contaminated clothing before re-use. Keep working clothes separately. Do not eat, drink or smoke when using this product.

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9. PHYSICAL AND CHEMICAL PROPERTIES

Information of basic physical and chemical properties

Appearance (physical state, colour, etc.)	Brown powder, solid
Odour	Odourless
Odour threshold	Not applicable
pH	No data available
Melting point/freezing point;	No data available
Boiling point	Not applicable
Boiling Range	Not applicable
Flash point	No data available
Evaporation rate	Not applicable
Flammability	Not flammable
Upper/lower flammability or explosive limits	No data available
Oxidising properties	No data available
Vapour pressure	Not applicable
Vapour density	No data available
Density	No data available
Solubility in water	Soluble
Other Solvents	No data available
Partition coefficient (n-octanol/water)	No data available
Auto ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	Not applicable

10. STABILITY AND REACTIVITY

10.1 Reactivity

Not reactive under normal storage and handling condition

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10.2 Chemical stability	Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions	Hazardous polymerization does not occur.
10.4 Conditions to avoid	Keep at temperatures below 374 °F (190 °C)
10.5 Incompatible materials	Strong oxidizing agents, Chlorates and Hypochlorites
10.6 Hazardous decomposition products	During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Nitrogen oxides. Hydrogen fluoride. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

11. TOXICOLOGICAL INFORMATION

11.1 Measures of Toxicity

Acute toxicity:

Ingredients:

Potassium Nitrate:

Acute toxicity: LC50 Oral (Rat):> 2000 mg/kg

Skin corrosion/irritation:

May irritate skin through mechanical abrasion.

Serious eye damage/irritation:

Causes serious eye irritation.

Respiratory or skin sensitisation:

No data available

11.2 Listed in IARC or considered carcinogen by NTP or OSHA

None listed

11.3 Other Adverse Effects

Animal feeding studies indicate that boric acid, at high doses, has demonstrated effects on fertility and testes and has demonstrated developmental effects on the fetus including weight loss and minor skeletal variations. The doses administered were many times in excess of those which humans would normally be exposed to. A human epidemiology study under the conditions of normal occupational exposure to borate dusts indicated no effect on fertility.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

May be toxic to aquatic life. In sufficient quantity may deplete oxygen required by aquatic life. May cause eutrophication of ponds and lakes.

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Other adverse effects

May release ammonium ions that are toxic to fish. Un-ionized ammonia concentrations above 0.02 mg/l are considered toxic in fresh water. May release phosphates which will result in algae growth, increased turbidity, and depleted oxygen. At extremely high concentrations, this may be hazardous to fish or other marine organisms. Release to watercourses may cause effects downstream. Fish 96 hour LC50, OECD Guidelines 203 (rainbow trout): >86 mg/L.

13. DISPOSAL CONSIDERATIONS

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13.1 Disposal methods to employ	Recover or recycle if possible. Properly characterize all waste materials. Consult federal, state and local regulations regarding the proper disposal of this material. Prevent material from entering sewers, storm drains, other unauthorized treatment drainage systems, and natural waterways. Ensure all product has been emptied from the sack/bag. Dispose of emptied container in accordance with applicable Federal, state and local laws and regulations.
13.2 Description of appropriate disposal containers to use	No data available
13.3 Description of the physical and chemical properties that may affect disposal activities	No data available
13.4 Language discouraging sewage disposal.	No data available
13.5 Any special precautions for landfills or incineration activities	No data available

14. TRANSPORT INFORMATION

UN Number	Not regulated
UN proper shipping name	Not applicable
Transport hazard classes	Not applicable
Packing group	Not applicable

15. REGULATORY INFORMATION

National and/or regional regulatory information of the chemical or mixtures

Inventories:

US. Toxic Substances Control Act: No data available

Clean Air Act: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

16. OTHER INFORMATION

Indications on the revision

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Abbreviations and acronyms used

ACGIH: American conference of governmental and industrial hygienist
CAS N°.: Chemical Abstract Service Number
CFR: Code of Federal Regulations
EC50: Half maximal effective concentration
HCS: Hazard communication standard
LC50: Half maximal lethal concentration
LD50: Half maximal lethal dose
OSHA: Occupational safety and health administration
STOT SE: Specific target organ toxicity Single exposure
STOT RE: Specific target organ toxicity Repeated exposure
UN N°.: United Nations Number

Methods of evaluation for the classification of mixtures

The classification of the mixture was set based on the regulation (US) HCS 1910.1200 [HCS 2012].

Other information

This information is based on our present knowledge and is provided according to the relevant national regulations. This information is intended as a characterization of the product in order to provide guidance for the relevant safety issues. However, this document does not provide any warranty, expressed or implied, regarding the properties of the product.