

1. Product and Company Identification

Product Code: 902760
Product Name: TCS Growstar Atrazine 0.92% + Fertilizer (20-0-10)
Company Name: Turf Care Supply Corp. **Phone Number:**
 50 Pearl Road 1 (330)558-0910
 Suite 200
 Brunswick, OH 44212
Web site address: www.turfcaresupply.com
Email address: regaffairs@tcscusa.com
Emergency Contact: PERS 1 (800)633-8253
Information: Turf Care Supply Corp. 1 (330)558-0910
Synonyms: Fertilizer with Herbicide.

2. Hazards Identification

Skin Corrosion/Irritation, Category 2
Serious Eye Damage/Eye Irritation, Category 1
Skin Sensitization, Category 1
Carcinogenicity, Category 1B
Specific Target Organ Toxicity (single exposure), Category 1
Specific Target Organ Toxicity (repeated exposure), Category 1
Aquatic Toxicity (Acute), Category 3
Aquatic Toxicity (Chronic), Category 3



GHS Signal Word: **Danger**

GHS Hazard Phrases: Causes skin irritation.
 May cause an allergic skin reaction.
 Causes serious eye damage.
 May cause cancer.
 Causes damage to organs
 Causes damage to organs through prolonged or repeated exposure.
 Harmful to aquatic life.
 Harmful to aquatic life with long lasting effects.

GHS Precaution Phrases: Do not handle until all safety precautions have been read and understood.
 Do not breathe dust.
 Wash hands thoroughly after handling.
 Do not eat, drink or smoke when using this product.
 Contaminated work clothing should not be allowed out of the workplace.
 Wear appropriate personal protective equipment.

GHS Response Phrases: IF ON SKIN: Wash with plenty of soap and water.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 IF exposed or concerned: Get medical attention/advice.
 Immediately call a POISON CENTER or doctor/physician.
 Get medical attention/advice if you feel unwell.
 If skin irritation or rash occurs, seek medical advice/attention.
 Take off contaminated clothing and wash before re-use.

GHS Storage and Disposal Phrases: Store in a secure location.
 Dispose of contents/container to an appropriate disposal facility.

Potential Health Effects (Acute and Chronic):	Chronic: Prolonged or repeated skin contact may cause dermatitis. Prolonged or repeated exposure may cause permanent eye damage. Chronic exposure may cause lung damage. Effects may be delayed. May cause reproductive and fetal effects. Possible risk of irreversible effects. On April 8, 2002 a proposal was made to group triazines as sharing a common toxic effect on reproductive function and development. They disrupt hormonal relationships between the hypothalamis and pituitary.
Inhalation:	May be harmful if inhaled. Low hazard for normal industrial handling. The toxicological properties of this substance have not been fully investigated. May cause systemic effects. Material may be irritating to mucous membranes and upper respiratory tract. Causes respiratory tract irritation. May cause dyspnea (difficult or labored breathing).
Skin Contact:	May cause skin irritation. Dust causes mechanical irritation. Low hazard for usual industrial handling. May cause sensitization by skin contact.
Eye Contact:	May cause eye irritation. Dust may cause mechanical irritation. Causes eye irritation. May cause chemical conjunctivitis.
Ingestion:	May be harmful if swallowed. May cause gastrointestinal irritation with nausea, vomiting and diarrhea. Low hazard for normal industrial handling. The toxicological properties of this substance have not been fully investigated. May cause systemic effects. Symptoms of exposure include dyspnea (breathing difficulty), weakness, incoordination, salivation, hypothermia, and liver injury.

3. Composition/Information on Ingredients

CAS #	Hazardous Components (Chemical Name)	Concentration
57-13-6	Urea	43.5 %
1317-65-3	Limestone	35.3 %
7447-40-7	Potassium chloride	15.9 %
14808-60-7	Quartz	1.18 %
64742-65-0	Mineral Oil	0.272 %

4. First Aid Measures

Emergency and First Aid Procedures:	
In Case of Inhalation:	Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
In Case of Skin Contact:	Get medical aid if irritation develops or persists. In case of contact, flush skin with plenty of water. Remove contaminated clothing and shoes. Get medical aid if irritation develops and persists. Wash clothing before reuse. Wash off with soap and plenty of water. Flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
In Case of Eye Contact:	Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid. Do NOT allow victim to rub eyes or keep eyes closed.
In Case of Ingestion:	If victim is conscious and alert, give 2-4 cupfuls of milk or water. Call a poison control center. If swallowed, do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.
Signs and Symptoms Of Exposure:	To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Note to Physician:	Treat symptomatically and supportively.

5. Fire Fighting Measures

Flash Pt:	No data.
Explosive Limits:	LEL: No data. UEL: No data.
Autoignition Pt:	No data.
Suitable Extinguishing Media:	For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray. In case of fire, use water, dry chemical, chemical foam, or alcohol-resistant foam.
Fire Fighting Instructions:	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. Substance is noncombustible. Decomposes at high temperatures, resulting in toxic and corrosive products. Runoff from fire control or dilution water may cause pollution. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Substance is nonflammable.
Flammable Properties and Hazards:	Most of the components of this product are non-combustible. However, a portion of them may support combustion at elevated temperatures.
Hazardous Combustion Products:	Thermal decomposition may result in the production of ammonia, formaldehyde, biuret, chlorine, cyanic acid, and cyanide, and oxides of carbon, nitrogen, phosphorus, potassium, sulfur, and chlorine, and oxides of alkaline earth metals, and certain heavier metals used as nutrients in fertilizer products, such as copper, iron, manganese, and zinc, and other toxic and irritating fumes and gases.

6. Accidental Release Measures

Steps To Be Taken In Case Material Is Released Or Spilled:	<p>Use proper personal protective equipment as indicated in Section 8.</p> <p>Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Avoid generating dusty conditions. Provide ventilation. Avoid runoff into storm sewers and ditches which lead to waterways. Do not let this product enter the environment except as directed on product label. Clean up spills immediately, observing precautions in the Protective Equipment section.</p> <p>Personal precautions. Use personal protective equipment. Avoid dust formation. Avoid breathing dust. Ensure adequate ventilation.</p> <p>Environmental precautions. Do not let product enter drains.</p> <p>Pick up and arrange disposal without creating dust. Keep in suitable, closed containers for disposal.</p> <p>PROCEDURES & PERSONAL PRECAUTIONS. Exercise appropriate precautions to minimize direct contact with skin or eyes and prevent inhalation of dust.</p> <p>Methods for cleaning up. Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.</p>
---	--

7. Handling and Storage

Precautions To Be Taken in Handling: Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation. Wash thoroughly after handling. Use only in a well-ventilated area. Keep container tightly closed. Wash clothing before reuse.

Provide appropriate exhaust ventilation at places where dust is formed. Remove contaminated clothing and wash before reuse. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Use with adequate ventilation.

Precautions To Be Taken in Storing: Store in a cool, dry place. Keep container closed when not in use. Store in a tightly closed container. Store in a cool, dry, well-ventilated area away from incompatible substances.

8. Exposure Controls/Personal Protection

CAS #	Partial Chemical Name	OSHA TWA	ACGIH TWA	Other Limits
57-13-6	Urea	No data.	No data.	No data.
1317-65-3	Limestone	PEL: 15 (dust); 5 (resp.) mg/m3	No data.	No data.
7447-40-7	Potassium chloride	No data.	No data.	No data.
14808-60-7	Quartz	PEL: 50 ug/m3	TLV: 0.05 mg/m3 (R)	No data.
64742-65-0	Mineral Oil	No data.	TLV: 5 mg/m3	No data.

Respiratory Equipment (Specify Type): A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant respirator use. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Wear a NIOSH/MSHA or European Standard EN 149 approved full-facepiece airline respirator in the positive pressure mode with emergency escape provisions.

Eye Protection: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Protective Gloves: Wear appropriate protective gloves to prevent skin exposure. Wash and dry hands.

Other Protective Clothing: Wear appropriate protective clothing to prevent skin exposure. Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Engineering Controls (Ventilation etc.): Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low. Use adequate general or local exhaust ventilation to keep airborne concentrations below the permissible exposure limits. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower.

Work/Hygienic/Maintenance Practices: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. Wash thoroughly after handling.

9. Physical and Chemical Properties

Physical States:	[] Gas [] Liquid [X] Solid
Appearance and Odor:	Multi-colored, granular solid. Characteristic pesticide solvent odor.
pH:	No data.
Melting Point:	133 C - 175 C
Boiling Point:	No data.
Flash Pt:	No data.
Evaporation Rate:	No data.
Flammability (solid, gas):	No data available.
Explosive Limits:	LEL: No data. UEL: No data.
Vapor Pressure (vs. Air or mm Hg):	No data.
Vapor Density (vs. Air = 1):	No data.
Specific Gravity (Water = 1):	No data.
Bulk density:	~ 45 - 65 LB/CF
Solubility in Water:	~ 1,080 g/L at 20.0 C
Solubility Notes:	The solubility value cited is for the urea component of this product, if present. See section 3.
Octanol/Water Partition Coefficient:	No data.
Autoignition Pt:	No data.
Decomposition Temperature:	~ 135 C
Viscosity:	No data.
Additional Physical Information	The melting point and decomposition temperatures cited are for the urea component of this product, if present. See section 3. Urea decomposes before boiling. (UNEP Publication, OECD SIDS UREA, CAS No: 57-13-6)

10. Stability and Reactivity

Stability:	Unstable [] Stable [X]
Conditions To Avoid - Instability:	Incompatible materials, dust generation, heating to decomposition. High temperatures.
Incompatibility - Materials To Avoid:	Strong oxidizing agents, bases, acids, aluminum.
Hazardous Decomposition or Byproducts:	The decomposition of fertilizer products may result in the generation of some or all of the following: ammonia, formaldehyde, biuret, chlorine, cyanic acid, and cyanide, and oxides of carbon, nitrogen, phosphorus, potassium, sulfur, and chlorine, and oxides of alkaline earth metals, and certain heavier metals used as nutrients in fertilizer products, such as copper, iron, manganese, and zinc, and other irritating and toxic fumes and gases. Hydrogen chloride, Nitrogen oxides, Carbon monoxide, irritating and toxic fumes and gases.
Possibility of Hazardous Reactions:	Will occur [] Will not occur [X]
Conditions To Avoid - Hazardous Reactions:	No data available.

11. Toxicological Information

Toxicological Information: Epidemiology: No information found.
 Teratogenicity: Teratogenic effects have occurred in experimental animals.
 Neurotoxic effects have occurred in experimental animals.
 Reproductive toxicity - no data available.
 Inhalation: May cause damage to organs through prolonged or repeated exposure.

No information available.
 Teratogenicity: No information available.
 Reproductive Effects: Mutagenicity: Neurotoxicity: Other Studies:
 CAS# 57-13-6: Urea:
 Other Studies:, TClO, Inhalation, Rat, 288.0 MG/M3, 17 W; Gigiena Truda i Professional'nye Zabolevaniya.(Labor Hygiene and Occupational Disease), V/O Mezhdunarodnaya Kniga, Moscow 113095 Russia, Vol/p/yr: 30(3),43, 1986

Acute toxicity, LD50, Oral, Rat, 8471. MG/KG; Gigiena i Sanitariya, Mezhdunarodnaya Kniga, ul. B. Yakimanka, 39, 113095, Moscow 113095 Russia, Vol/p/yr: 51(6),8, 1986

Standard Draize Test, Skin, Human, 22.00 MG, 3 D; Cutaneous Toxicity, Proceedings of the 3rd Conference, 1976, D, V.A., and P. L, New York, Academic Press, Inc., London United Kingdom, Vol/p/yr: -,127, 1977

CAS# 7447-40-7: Potassium chloride:
 Acute toxicity, LD50, Oral, Rat, 2600. MG/KG; "Sbornik Vysledku Toxilogickeho Vysetreni Latek A Pripravku," , Institut Pro Vychovu Vedoucicn P, Marhold, J.V., Institut Pro Vychovu Vedoucicn, Pracovniku Chemickeho, Prumyclu Praha Czechoslovakia, Vol/p/yr: -,8, 1972

Standard Draize Test, Eyes, Species: Rabbit, 500.0 MG, 24 H; "Sbornik Vysledku Toxilogickeho Vysetreni Latek A Pripravku," , Institut Pro Vychovu Vedoucicn P, Marhold, J.V., Institut Pro Vychovu Vedoucicn, Pracovniku Chemickeho, Prumyclu Praha Czechoslovakia, Vol/p/yr: -,8, 1972

Carcinogenicity/Other Information: This material may contain small amounts of respirable crystalline and amorphous silica. The International Agency for Cancer Research (IARC) has classified crystalline silica as a carcinogen to humans (Group 1), and amorphous silica as not classifiable as to its carcinogenicity to humans (Group 3). See "Silica, Some Silicates, Coal dust and para-Aramid Fibrils in IARC Monographs on the Evaluation of Carcinogenic Risks to Humans", (Vol. 68). CAS# 1912-24-9: Not listed by ACGIH, IARC, NTP, or CA Prop 65.

CAS #	Hazardous Components (Chemical Name)	NTP	IARC	ACGIH	OSHA
57-13-6	Urea	n.a.	n.a.	n.a.	n.a.
1317-65-3	Limestone	n.a.	n.a.	n.a.	n.a.
7447-40-7	Potassium chloride	n.a.	n.a.	n.a.	n.a.
14808-60-7	Quartz	Known	1	A2	n.a.
64742-65-0	Mineral Oil	n.a.	n.a.	n.a.	n.a.

12. Ecological Information

General Ecological Information:

Environmental: If released to the atmosphere, urea will degrade rapidly in the vapor-phase by reaction with photochemically produced hydroxyl radicals (half-life of 9.6 hr). If released to soil, urea is hydrolyzed to ammonium through soil urease activity (the basis of its use as a fertilizer). The rate of hydrolysis can be fast (24 hr); however, a number of variables (such as increasing the pellet size of the fertilizer) can decrease the degradation rate from days to weeks.

Atrazine does not hydrolyze in soils when uncatalyzed even at elevated temperatures. However, the rate of hydrolysis was found to drastically increase upon small additions of sterilized soil, humic acid, and fulvic acid, indicating atrazine hydrolysis could be catalyzed. Atrazine was completely hydrolyzed within 3-4 days at extreme pHs. Alkaline hydrolysis proceeds twice as rapid as acidic hydrolysis. The average Koc value for 4 soils was determined to be 122. Based on the Koc values for soils, atrazine is expected to maintain a high to medium mobility class in soils. However atrazine may also strongly adsorb to colloidal materials in the water column. Atrazine is more readily adsorbed on muck or clay soils than on soils of low clay & organic content. The downward movement or leaching is limited by its adsorption to certain soil constituents. Adsorption is not irreversible, and desorption often occurs readily, depending on such factors as temperature, moisture, and pH. (USEPA Technical Fact Sheet, www.epa.gov/ogwdw/pdfs/factsheets/soc/tech/altrazine.pdf)

CAS# 57-13-6: Urea:

Lethal concentration to 0% of test organisms., Creek Chub (*Semotilus atromaculatus*), 16000000. UG/L, 24 H, Mortality, Water temperature: 15.0 C - 21.0 C C, pH: 8.30, Hardness: 98.00 MG/L; Appraisal of a Chemical Waste Problem by Fish Toxicity Tests, Gillette, L.A., D.L. Miller, and H.E. Redman, 1952

CAS# 7447-40-7: Potassium chloride:

LC50, Rainbow Trout (*Oncorhynchus mykiss*), 1610000. UG/L, 48 H, Mortality, Water temperature: 17.0 C C, pH: 7.70, Hardness: 40.00 MG/L; Toxicity of Candidate Molluscicides to Zebra Mussels (*Dreissena polymorpha*) and Selected Nontarget Organisms, Waller, D.L., J.J. Rach, W.G. Cope, L.L. Marking, S.W. Fisher, and H. Dabrowska, 1993

Persistence and Degradability:

No data available.

Bioaccumulative Potential:

Atrazine: Log (Kow) = 2.75
Log BCF ranges from 0.3 to 2.0 in fish.
(USEPA Technical Fact Sheet, <http://www.epa.gov/ogwdw/pdfs/factsheets/soc/tech/altrazine.pdf>)

Mobility in Soil:

No data available.

13. Disposal Considerations

Waste Disposal Method: If material cannot be completely used according to label directions, dispose of container and contents according to this section.

Contact a licensed professional waste disposal service to dispose of this material.

Do not let product enter drains.

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.
 RCRA U-Series: None listed.

Observe all federal, state, and local environmental regulations.

Packaging: Empty bag may be placed in trash.

14. Transport Information

LAND TRANSPORT (US DOT):

DOT Proper Shipping Name: Not Regulated.
DOT Hazard Class:
UN/NA Number:

15. Regulatory Information

EPA SARA (Superfund Amendments and Reauthorization Act of 1986) Lists

CAS #	Hazardous Components (Chemical Name)	S. 302 (EHS)	S. 304 RQ	S. 313 (TRI)
57-13-6	Urea	No	No	No
1317-65-3	Limestone	No	No	No
7447-40-7	Potassium chloride	No	No	No
14808-60-7	Quartz	No	No	No
64742-65-0	Mineral Oil	No	No	No

This material meets the EPA Yes No Acute (immediate) Health Hazard
'Hazard Categories' defined Yes No Chronic (delayed) Health Hazard
for SARA Title III Sections Yes No Fire Hazard
311/312 as indicated: Yes No Sudden Release of Pressure Hazard
 Yes No Reactive Hazard

CAS #	Hazardous Components (Chemical Name)	Other US EPA or State Lists
57-13-6	Urea	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory, 8A CAIR; CA PROP.65: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NJ EHS: No; NY Part 597: No; PA HSL: No
1317-65-3	Limestone	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NJ EHS: No; NY Part 597: No; PA HSL: Yes - 1
7447-40-7	Potassium chloride	CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes - Inventory; CA PROP.65: No; MA Oil/HazMat: No; MI CMR, Part 5: No; NJ EHS: No; NY Part 597: No; PA HSL: No

14808-60-7 Quartz

CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes -

Inventory; CA PROP.65: No; MA Oil/HazMat: No; MI CMR,
Part 5: No; NJ EHS: No; NY Part 597: No; PA HSL: Yes - 1

64742-65-0 Mineral Oil

CAA HAP,ODC: No; CWA NPDES: No; TSCA: Yes -

Inventory; CA PROP.65: No; MA Oil/HazMat: No; MI CMR,
Part 5: No; NJ EHS: No; NY Part 597: No; PA HSL: No**Regulatory Information:**

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels on non-pesticide chemicals. The hazard information required on the pesticide label is reproduced below. The pesticide label also includes other important information, including directions for use.

KEEP OUT OF REACH OF CHILDREN
CAUTION

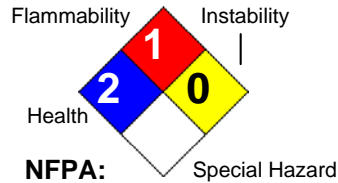
ENVIRONMENTAL HAZARDS

Atrazine can travel (seep or leach) through soil and can enter ground water which may be used as drinking water. Atrazine has been found in ground water. Users are advised not to apply Atrazine on sand and loamy sand soils where the water table (ground water) is close to the surface and where these soils are very permeable; i.e., well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of ground water.

This pesticide is toxic to aquatic invertebrates. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below the mean high water mark. Do not apply when weather conditions favor drift from treated areas. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash water.

PRECAUTIONARY STATEMENTS**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**

CAUTION: Harmful if swallowed or absorbed through skin or inhaled. Causes moderate eye irritation. Avoid contact with eyes, skin or clothing. Avoid breathing dust. Do not apply granular lawn products by hand. Avoid contact with hands or skin. Broadcast applications must NOT be made using hand-held devices, such as a belly grinder or handheld rotary applicator. Such equipment may only be used for spot treatments.

16. Other Information**Revision Date:** 12/19/2016**Hazard Rating System:****Additional Information About** No data available.**This Product:****Company Policy or****Disclaimer:**

Disclaimer and Limitation of Liability: This data sheet was developed from information on the constituent materials identified herein and does not relate to the use of such materials in combination with any other material or process. No warranty is expressed or implied with respect to the completeness or ongoing accuracy of the information contained in this data sheet, and Turf Care Supply Corp. disclaims all liability for reliance on such information. This data sheet is not a guarantee of safety. Users are responsible for ensuring that they have all current information necessary to safely use the product described by this data sheet for their specific purposes.