MATERIAL SAFTEY DATA SHEET (MSDS)

Urea

Ghadan Company

- **Address :** 1st Al-Kafrawy St., New Damietta City, Damietta, Egypt
- **Email :** info@ghadan.co
- **Website :** http://www.ghadan.co/
- **Phone :** 00201000073381

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GHADAN

Ghadan Sales and Marketing

MATERIAL SAFETY DATA SHEET
Granular Urea

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Urea
Chemical Name:	Carbonyl diamide
Chemical Family:	Organic Nitrogenous Fertilizers
HS Code No:	31-05-59
Synonyms/Brands:	Carbonyl diamide Urea
Chemical Formula:	CH_4N_2O
Primary Use:	Fertilizers for Soil
Manufacturer's Name:	Ghadan Company For Marketing and Management
Address:	1st Al-Kafrawy St., New Damietta City, Damietta, Egypt
Emergency Telephone:	(002) 01000073381
E-mail:	info@ghadan.co

Health Hazards:	Eye and skin irritant. Avoid contact with eyes, skin and clothing. Wash thoroughly after Handling.
Physical Hazards:	Slippery when wet.
Physical Form:	Solid.
Appearance:	Yellow granules.
Odor:	Slight ammonia odor.

NFPA HAZARD CLASS		**HMIS HAZARD CLASS**	
Health: Flammability: Instability: Special Hazard:	2 (Moderate) 0 (Least) 0 (Least) None	Health: Flammability: Physical Hazard:	2 (Moderate) 0 (Least) 0 (Least)

2. COMPOSITION/INFORMATION ON INGREDIENTS

Component	% Weight	GHS Classification
Urea HSCODE. 31-05-59 CAS No. 57-13-6 (pure Carbonyl diamide)	>98%	Skin Corrosion/Irritation, Eye Irritation - SE (Resp. Irr.) Chronic Aquatic Hazard
Ammonia HSCODE. 31-05-59 CAS No. 57-13-6		Acute Toxicity (Inhalation), Skin Corrosion/Irritation Serious Eye Damage, Acute Aquatic Hazard

3. HAZARDS IDENTIFICATION

POTENTIAL HEALTH EFFECTS	
Eye:	May cause eye irritation. Causes redness and pain.
Skin:	May cause skin irritation. Causes redness and pain. May be harmful if absorbed through the skin.
Inhalation (Breathing):	May cause respiratory tract irritation. May be harmful if inhaled.
Ingestion (Swallowing):	Causes gastrointestinal irritation with nausea, vomiting and diarrhea. May cause cardiac disturbances. May be harmful if swallowed.
Chronic:	Prolonged or repeated exposure may cause adverse reproductive effects.

4. FIRST AID MEASURES

Eye:	Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.
Skin:	Get medical aid. Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
Inhalation (Breathing):	Remove from exposure and move to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.
Ingestion (Swallowing):	Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 capfuls of milk or water.
Note to Physicians:	Treat symptomatically and supportively.

5. FIRE FIGHTING MEASURES

General Information:	As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.
Unusual Fire & Explosion Hazards:	Not available.
Extinguishing Media:	Use water spray, dry chemical, carbon dioxide, or chemical foam.
Autoignition Temperature:	Not applicable.
NFPA Rating	(estimated) Health: 1; Flammability: 0; Instability: 0
Fire Fighting Instructions:	For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential hazard is unknown, in enclosed or confined spaces, a self-contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8). Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid excessive water to minimize runoff.

6. ACCIDENTAL RELEASE MEASURES

- **General Information:** Use proper personal protective equipment as indicated in Section 8. (see
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7. HANDLING AND STORAGE

Handling:	Use with adequate ventilation. Minimize dust generation and accumulation. Avoid breathing dust, mist, or vapor. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation.
Storage:	Store in a cool, dry place. Store in a tightly closed container.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls:	If current ventilation practices are not adequate to maintain airborne concentrations below the established exposure limits, additional ventilation or exhaust systems may be required.

Personal Protective Equipment (PPE)	
Skin:	The use of cloth or leather work gloves is advised to prevent skin contact, possible irritation and absorption (see glove manufacturer literature for information on permeability).
Eye/Face:	Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.
OSHA Vacated PELs:	Urea: No OSHA Vacated PELs are listed for this chemical.
Respirators:	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.
Other PPE:	A source of clean water should be available in the work area for flushing eyes and skin. Impervious clothing should be worn as needed.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values in this section are determined at 20°C (68°F) and 760 mm Hg (1 atm).

Flash Point:	Not applicable
Flammable/ Explosive Limits (%):	LEL/UEL Not applicable
Autoignition Temperature:	Not applicable
Appearance:	white granules
Physical State:	Solid
Odor:	ammonia-like
Molecular Weight of Pure Material:	60.06
Molecular Formula	CH_4N_2O
pH:	7.5-9.5 (10% aq. solution)
Vapor Pressure (mm Hg):	1.25 mm Hg @ 25 deg C
Vapor Density (air=1):	Not applicable
Boiling Point:	decomposes
Freezing/Melting Point:	131-135 deg C
Solubility in Water:	Very soluble (68-70 g / 100 g)
Specific Gravity:	1.335
Volatility:	Gradually loses up to 8% ammonia during long-term storage
Bulk Density:	58 – 60 lbs/ft^3 (930-960kg/m^3)

10.STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal temperatures and pressures.
Conditions to Avoid:	Incompatible materials, dust generation, temperatures above 130°C.
Incompatible Materials:	Sodium hypochlorite, calcium hypochlorite, sodium nitrate, nitrosyl perchlorate, strong oxidizing agents, dichromates, liquid chlorine, nitrates, permanganates, chromyl chloride.
Hazardous Decomposition Products:	Carbon monoxide, oxides of nitrogen, carbon dioxide, ammonia.
Corrisivity:	Corrosive to iron and mild steels, aluminum, zinc and copper.
Hazardous Polymerization:	Will not occur.

11.TOXICOLOGICAL INFORMATION

CAS#	57-13-6: YR6250000
LD50/LC50:	Oral, mouse: LD50 = 11 gm/kg; Oral, rat: LD50 = 8471 mg/kg;
Carcinogenicity:	Not listed by ACGIH, IARC, NTP, or CA Prop 65.
Epidemiology:	Oral, rat: TDLo = 821 gm/kg/1Y-C (Tumorigenic - neoplastic by RTECS criteria - Blood - tumors and Blood - lymphoma, including Hodgkin's disease).; Oral, mouse: TDL0 = 394 gm/kg/1Y-C (Tumorigenic - Carcinogenic by RTECS criteria - Blood - tumors and Blood - lymphoma, including Hodgkin's disease).
Teratogenicity:	No information available.
Reproductive Effects:	Intraplacental, woman: TDLo = 1400 mg/kg (female 16 week(s) after conception) Fertility - abortion.; Intraplacental, woman: TDLo = 1600 mg/kg (female 16 week(s) after conception) Fertility - abortion.
Mutagenicity:	DNA Inhibition: Human, Lymphocyte = 600 mmol/L.; Cytogenetic Analysis: Human, Leukocyte = 50 mmol/L.; DNA Damage: Mouse, Lymphocyte = 628 mmol/L.; Mutation in Mammalian Somatic Cells: Mouse, Lymphocyte = 265 mmol/L.
Neurotoxicity:	No information available.

12.ECOLOGICAL INFORMATION

Ecotoxicity:	Bacteria: Phytobacterium phosphoreum: EC50 = 23914 mg/L; 5 min; Microtox test If released to water, urea can degrade readily through biotic hydrolysis as demonstrated by various screening studies. The presence of naturally-occurring phytoplankton increases the degradation rate because phytoplankton use urea as a nitrogen source and because urea is decomposed by phytoplankton photosynthesis. In phytoplankton-rich waters, degradation occurs much faster in sunlight than in the dark. Abiotic hydrolysis of urea occurs very slowly in relation to biotic hydrolysis.
BOD and COD:	No data found.
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 a variables (such as increasing the pellet size of the fertilizer) can decrease the degradation rate from days to weeks. **Physical:** No information found.
Physical:	No information found.
Other:	Do not empty into drains.

13.Disposal Considerations

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 261.3. 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.

14.TRANSPORT INFORMATION

Hazard Class or Division:	Not listed in the hazardous materials shipping regulations (49 CFR, Table 172.101) by the U.S. Department of Transportation, or in the Transport of Dangerous Goods (TDG) Regulations Canada.

15.REGULATORY INFORMATION

US FEDRAL	
TSCA	CAS# 57-13-6 is listed on the TSCA inventory.
Health & Safety Reporting List	None of the chemicals are on the Health & Safety Reporting List.
Chemical Test Rules	None of the chemicals in this product are under a Chemical Test Rule.
Section 12b	None of the chemicals are listed under TSCA Section 12b.
TSCA Significant New Use Rule	None of the chemicals in this material have a SNUR under TSCA.
CERCLA Hazardous Substances and corresponding RQs	None of the chemicals in this material have an RQ.
SARA Section 302 Extremely Hazardous Substances	None of the chemicals in this product have a TPQ.
SARA Codes	CAS # 57-13-6: immediate.
Section 313	No chemicals are reportable under Section 313.
Clean Air Act:	This material does not contain any hazardous air pollutants. This material does not contain any Class 1 Ozone depletors. This material does not contain any Class 2 Ozone depletors.
Clean Water Act:	None of the chemicals in this product are listed as Hazardous Substances under the CWA. None of the chemicals in this product are listed as Priority Pollutants under the CWA. None of the chemicals in this product are listed as Toxic Pollutants under the CWA.
OSHA:	None of the chemicals in this product are considered highly hazardous by OSHA.
STATE	CAS# 57-13-6 can be found on the following state right to know lists: Minnesota.
California Prop 65	California No Significant Risk Level: None of the chemicals in this product are listed.

European/International Regulations European Labeling in Accordance with EC Directives	
Hazard Symbols:	Not available.
Risk Phrases:	Not available.
Safety Phrases:	S 24/25 Avoid contact with skin and eyes.
WGK (Water Danger/Protection)	CAS# 57-13-6: 1
Canada - DSL/NDSL	CAS# 57-13-6 is listed on Canada's DSL List.
Canada - WHMIS	This product has a WHMIS classification of D2B, D2A. This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by those regulations.
Canadian Ingredient Disclosure List	

16.OTHER INFORMATION

The information in this document is believed to be correct as of the date issued. **HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THIS INFORMATION, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THIS PRODUCT, OR THE HAZARDS RELATED TO ITS USE.** This information and product are furnished on the condition that the person receiving them shall make their own determination as to suitability of the product for their particular purpose and on the condition that they assume the risk of their use thereof.

Signature

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