



MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT IDENTIFICATION

Chemical Name 19-19-19
Synonyms Blended Granular Fertilizer
Trade Name 19-19-19
Formula Not applicable; mixture
Chemical Family Inorganic Chemical Fertilizer
CAS Number Not applicable; mixture
Molecular Weight Not applicable; mixture

SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredient	CAS Number	% by WT	Hazardous?	OSHA - PEL	ACGIH - TLV
Monoammonium Phosphate (11-52-0)	7722-76-1	36.6%	No	Not Listed	Not Listed
Potash (KCl)	7447-40-7	30.7%	No	Not Listed	Not Listed
Urea (46-0-0)	57-13-6	32.7%	No	Not Listed	Not Listed

SECTION 3 HAZARDS IDENTIFICATION

Inhalation Dusty conditions may cause mechanical aggravation to respiratory mucous membranes.
Ingestion Minimal hazard under normal conditions of use. Ingestion of large quantities may cause gastrointestinal discomfort, vomiting, weakness or other medicinally related problems.
Skin Contact Slight dermal abrasion is possible with prolonged contact, especially around cuffs and collars.
Eye Contact Dust from this product may cause particulate discomfort to eyes.
Effects of Overdose Ingestion of large doses may cause diarrhea, nausea, abdominal cramps, formation of methemoglobinemia, irregular heartbeat, dehydration or hypertension. Seek medical attention.
Carcinogenicity This product is not listed as carcinogenic by ACGIH, EPA, IARC, OSHA nor by NTP.
Pre-existing medical Conditions aggravated by exposure may include kidney disorders.

SECTION 4 FIRST AID MEASURES

Inhalation Remove to fresh air. Seek medical attention if condition persists.
Ingestion If large amount is ingested, give 2-3 glasses of water and induce vomiting. Seek medical attention.
Skin Contact Wash with soap and water. Seek medical attention if condition persists.
Eye Contact Flush eyes with running water for at least 15 minutes. Seek medical attention if condition persists.

SECTION 5 FIRE FIGHTING MEASURES

Extinguishing Media	Use media suitable to extinguish source of fire.
Flash Point	Not applicable
Flammable Limits	Not applicable
Autoignition Temperature	Not applicable
Special Fire Fighting Procedures	Approach fire from up wind and wear self-contained breathing apparatus.
Unusual Fire and Explosion Hazards	During extremely high temperature conditions, the product may reach melting point and decompose to release NH ₃ , SO _x , PO _x , CN, CO _x . Heating mixtures of urea and oxidizers can be dangerous. Hypochlorites react with urea to form nitrogen trichloride that explodes spontaneously in air. Urea nitrate can be formed when urea is contacted with nitric acid. Urea nitrate can explode with friction.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Environmental Precautions	Keep out of water supplies, lakes, ponds, streams and rivers. This product is a fertilizer and will promote algae growth and may degrade water quality and taste.
In Case of Small Spill	Use appropriate tools to put the spilled solid in a suitable container for intended use, recycle or disposal.
In Case of Large Spill	Prevent additional discharge of material, if it is possible to do so without hazard. Prevent spills from entering sewers, watercourses, wells, etc. Product will promote algae growth and may degrade water quality and taste. Notify downstream water users. Recover and place material in suitable containers for recycle, reuse, or disposal.

SECTION 7 HANDLING AND STORAGE

Precautions	Hygroscopic if relative humidity is over 76%. Contamination with ammonium nitrate fertilizers increases hygroscopicity of urea.
Handling	If user operations generate dust, fumes or mists, use ventilation to keep exposure to airborne contaminants below the exposure limit.
Storage	Store in a cool, dry, well-ventilated area. Prevent spillage and separate from strong oxidizers. Do not blend or store in contact with ammonium nitrate. Dry urea and dry ammonium nitrate will react together to produce a slurry. Avoid using containers, pipes and fittings made of zinc-clad or copper bearing alloys that are corroded by ammonia. Use normal safety procedures and good personal hygiene. Keep out of the reach of children.

SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION

Ventilation Protection	Adequate natural or general ventilation.
Respiratory Protection	Approved dust respirator when necessary.
Eye Protection	In dusty conditions, safety glasses with side shields or goggles may be necessary.
Skin Protection	Leather or cloth gloves.
Protective Clothing	Normal work clothing.

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point	Not applicable; mixture
Melting Point	Not applicable; mixture
Density	Approximately 60 lbs per cubic foot
Flashpoint	Non-combustible
pH	Not applicable; mixture
Appearance	Multicoloured prills or granules
Reaction with Water	Dissolves
Solubility (in Water)	Phosphate component – 87 g/100 g water Potash component – 34.2 g/100 mL water Urea component - 67g/100 g water
Solubility (in other solvents)	Insoluble
% Volatiles (by volume)	0
Vapour Pressure, mmHg	0
Vapour Density	0
Odour	Saline/ammonia
Odour Threshold	17 ppm as NH ₃
Physical State	Granular Solid
Molecular Weight	Not applicable; mixture

SECTION 10 STABILITY AND REACTIVITY

Stability (Normal conditions)	Stable under normal conditions.
Conditions to avoid	Extremely high temperatures (over 130°C (266°F))
Materials to avoid	Strong oxidizing agents such as hypochlorites, nitric acid, sodium nitrite, phosphorous pentachloride and nitrosyl perchlorate. Prolonged contact may cause oxidation of unprotected metals. Contamination of solid urea with solid ammonium nitrate or phosphatic fertilizers increases the hygroscopicity of urea.
Hazardous Decomposition Products	NH ₃ , SO _x , PO _x , CN, CO _x
Hazardous Polymerization	Will not occur.
Corrosivity	Slightly corrosive to steel, aluminum, zinc, and copper. Non-corrosive in presence of glass or stainless steel.
Other information	Absorbs moisture from the air. Hygroscopic; Keep containers tightly closed. Avoid contact with moisture. Slow hydrolysis will produce corrosive acids.

SECTION 11 TOXICOLOGICAL INFORMATION

Routes of Exposure	Ingestion, inhalation
LD ₅₀ (Rat, oral)	2000 mg/kg for phosphate component; other components are less toxic.
Special Remarks	Very low toxicity for humans or animals under normal conditions of careful, responsible use. Urea is used in small quantities as a feed supplement for livestock. Urea ingestion may be harmful to wildlife, livestock and birds at body burdens of several thousands of mg/kg if ingested without adequate mixing. Clean up all spilled material, especially where bulk fertilizer loading of equipment occurs to prevent animal overexposure.
Other Effects on Humans	May cause irritation of the mucous membranes and upper respiratory tract.

SECTION 12 ECOLOGICAL EFFECTS

May be toxic to aquatic life in large quantities.

SECTION 13 DISPOSAL CONSIDERATIONS

Waste Disposal Procedure	Recover and place material in a suitable container for intended use or disposal. Ensure disposal is in compliance with government requirements and local regulations.
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SECTION 14 TRANSPORT INFORMATION

This product is neither regulated by Transport Canada (TDG) nor by the US DOT.

SECTION 15 CARCINOGENICITY INFORMATION

Carcinogenic?

By ACGIH	No
By EPA	No
By IARC	No
By OSHA	No
By NTP	No

SECTION 16 OTHER INFORMATION

ACGIH	American Conference of Governmental Industrial Hygienists
CAS#	Chemical Abstracts Service Registry Number
DOT	Department of Transportation
EPA	Environmental Protection Agency
IARC	International Agency for Research on Cancer
LD ₅₀	The lethal dose expected to kill 50% of a group of test animals.
NTP	National Toxicology Program
OSHA	US Occupational Safety and Health Administration
PEL	Permissible Exposure Limit
TDG	Transportation of Dangerous Goods
TLV	Threshold Limit Value

SECTION 17 NOTES

SECTION 18 MSDS PREPARATION INFORMATION

Prepared by	Border Chemical Company Limited - (204) 222-3276
Date Issued	August 15, 2003
Date Reviewed/Revised	April 30, 2006, April 1, 2009, April 1, 2012, October 16, 2014
Emergency Phone Number	(204) 222-3276 - 24 hours

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