

SECTION 1: Identification

1.1. Product identifier

Product name : MicroStart EZ 20

1.2. Recommended use and restrictions on use

Recommended uses and restrictions : Fertilizer Additive

1.3. Supplier

ATP Nutrition Ltd.
190 Agri Park Road
Oak Bluff, MB
R4G 0A5
T 204-287-2023 - F 204-287-0027
info@atpag.com - www.atpag.com

1.4. Emergency telephone number

Emergency number : CANUTEC: +1-613-996-6666 or *666 (cellular)

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

Acute toxicity (oral) Category 4	H302
Skin corrosion/irritation Category 2	H315
Serious eye damage/eye irritation Category 1	H318

2.2. GHS Label elements, including precautionary statements

GHS CA labeling

Hazard pictograms (GHS CA) :



Signal word (GHS CA) : Danger

Hazard statements (GHS CA) :

- H302 - Harmful if swallowed
- H315 - Causes skin irritation
- H318 - Causes serious eye damage

Precautionary statements (GHS CA) :

- P264 - Wash hands, forearms and face thoroughly after handling.
- P270 - Do not eat, drink or smoke when using this product.
- P280 - Wear protective gloves/protective clothing/eye protection/face protection.
- P301+P312 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.
- P302+P352 - IF ON SKIN: Wash with plenty of water.
- P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P310 - Immediately call a POISON CENTER or doctor.
- P321 - Specific treatment (see supplemental first aid instruction on this label).
- P330 - Rinse mouth.
- P332+P313 - If skin irritation occurs: Get medical advice/attention.
- P362+P364 - Take off contaminated clothing and wash it before reuse.
- P501 - Dispose of contents/container to hazardous or special waste collection point, in

accordance with local, regional, national and/or international regulation.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS CA)

No additional information available

SECTION 3: Composition/Information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%
Zinc sulfate	CAS-No.: 7733-02-0	40 – 50
Magnesium oxide (MgO)	CAS-No.: 1309-48-4	10 – 20
Zinc oxide (ZnO)	CAS-No.: 1314-13-2	10 – 15
Sulfuric acid, iron(2+) salt (1:1)	CAS-No.: 7720-78-7	5 – 10
Urea	CAS-No.: 57-13-6	5 – 10
Calcium sulfate	CAS-No.: 7778-18-9	1 – 5
Calcium oxide	CAS-No.: 1305-78-8	≤ 2.5

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation	: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get medical attention if symptoms occur. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
First-aid measures after skin contact	: Flush contaminated skin with plenty of water. Get medical attention if symptoms occur.
First-aid measures after eye contact	: Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Get medical attention if irritation occurs.
First-aid measures after ingestion	: Wash out mouth with water. Remove victim to fresh air and keep at rest in a position comfortable for breathing. Do not induce vomiting unless directed to do so by medical personnel. Get medical attention if symptoms occur.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after skin contact	: Causes skin irritation
Symptoms/effects after eye contact	: Causes serious eye damage
Symptoms/effects after inhalation	: No known significant effects or critical hazards
Symptoms/effects after ingestion	: Harmful if swallowed

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment	: Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
-----------------------------------	---

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Extinguish with foam, carbon dioxide, dry powder or water fog.

5.2. Unsuitable extinguishing media

Unsuitable extinguishing media : Do not use a heavy water stream.

5.3. Specific hazards arising from the hazardous product

Hazardous decomposition products in case of fire : No specific data.

5.4. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Prevent fire-fighting water from entering environment.

Protection during firefighting : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Put on appropriate personal protective equipment.

6.1.2. For emergency responders

Protective equipment : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For nonemergency personnel".

6.2. Methods and materials for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Stop leak if without risk. Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

6.3. Reference to other sections

See Heading 8. Exposure controls and personal protection. For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Put on appropriate personal protective equipment (see Section 8).

Hygiene measures : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. See also Section 8 for additional information on hygiene measures.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Zinc oxide (ZnO) (1314-13-2)	
Canada (Alberta) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³ (respirable)
OEL STEL	10 mg/m ³ (respirable)
Canada (Quebec) - Occupational Exposure Limits	
VECD (OEL STEV)	10 mg/m ³ (fume)
VEMP (OEL TWA EV)	10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust) 5 mg/m ³ (fume)
Canada (British Columbia) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³ (respirable)
OEL STEL	10 mg/m ³ (respirable)
Canada (Manitoba) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³ (respirable particulate matter)
OEL STEL	10 mg/m ³ (respirable particulate matter)
Canada (New Brunswick) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica, dust) 5 mg/m ³ (fume)
OEL STEL	10 mg/m ³ (fume)
Canada (Newfoundland and Labrador) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³ (respirable particulate matter)
OEL STEL	10 mg/m ³ (respirable particulate matter)
Canada (Nova Scotia) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³ (respirable particulate matter)
OEL STEL	10 mg/m ³ (respirable particulate matter)
Canada (Nunavut) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³ (dust and fume; respirable fraction)
OEL STEL	10 mg/m ³ (dust and fume; respirable fraction)
Canada (Northwest Territories) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³ (dust and fume; respirable fraction)
OEL STEL	10 mg/m ³ (dust and fume; respirable fraction)

Canada (Ontario) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³ (respirable)
	10 mg/m ³ (respirable)
Canada (Prince Edward Island) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³ (respirable particulate matter)
OEL STEL	10 mg/m ³ (respirable particulate matter)
Canada (Saskatchewan) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³ (dust and fume, respirable fraction)
OEL STEL	10 mg/m ³ (dust and fume, respirable fraction)
Canada (Yukon) - Occupational Exposure Limits	
OEL TWA	5 mg/m ³ (fume) 30 mppcf (dust) 10 mg/m ³ (dust)
OEL STEL	10 mg/m ³ (fume)
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	2 mg/m ³ (respirable particulate matter)
ACGIH® TLV® STEL	10 mg/m ³ (respirable particulate matter)
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA	5 mg/m ³ (fume) 15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Calcium sulfate (7778-18-9)	
Canada (Alberta) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³
Canada (Quebec) - Occupational Exposure Limits	
VEMP (OEL TWA)	10 mg/m ³ (containing no Asbestos and <1% Crystalline silica-total dust) 5 mg/m ³ (containing no Asbestos and <1% Crystalline silica-respirable dust)
Canada (British Columbia) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (inhalable)
Canada (Manitoba) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (inhalable particulate matter)
Canada (New Brunswick) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (particulate matter containing no Asbestos and <1% Crystalline silica)
Canada (Newfoundland and Labrador) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (inhalable particulate matter)
Canada (Nova Scotia) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (inhalable particulate matter)
Canada (Nunavut) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ 10 mg/m ³

MicroStart EZ 20

Safety Data Sheet



OEL STEL	20 mg/m ³ 20 mg/m ³
Canada (Northwest Territories) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ 10 mg/m ³
OEL STEL	20 mg/m ³ 20 mg/m ³
Canada (Ontario) - Occupational Exposure Limits	
OEL TWAEV	10 mg/m ³ (inhalable)
Canada (Prince Edward Island) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (inhalable particulate matter)
Canada (Saskatchewan) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³
OEL STEL	20 mg/m ³
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	10 mg/m ³ (inhalable particulate matter)
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA	15 mg/m ³ (total dust) 5 mg/m ³ (respirable fraction)
Calcium oxide (1305-78-8)	
Canada (Alberta) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³
Canada (Quebec) - Occupational Exposure Limits	
VEMP (OEL TWAEV)	2 mg/m ³
Canada (British Columbia) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³
Canada (Manitoba) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³
Canada (New Brunswick) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³
Canada (Newfoundland and Labrador) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³
Canada (Nova Scotia) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³
Canada (Nunavut) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³
OEL STEL	4 mg/m ³
Canada (Northwest Territories) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³
OEL STEL	4 mg/m ³

MicroStart EZ 20

Safety Data Sheet



Canada (Ontario) - Occupational Exposure Limits	
OEL TWA _{EV}	2 mg/m ³
Canada (Prince Edward Island) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³
Canada (Saskatchewan) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³
OEL STEL	4 mg/m ³
Canada (Yukon) - Occupational Exposure Limits	
OEL TWA	2 mg/m ³
OEL STEL	4 mg/m ³
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	2 mg/m ³
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA	5 mg/m ³
Magnesium oxide (MgO) (1309-48-4)	
Canada (Alberta) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (fume)
Canada (Quebec) - Occupational Exposure Limits	
VEMP (OEL TWA _{EV})	10 mg/m ³ (fume)
Canada (British Columbia) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (fume, inhalable) 3 mg/m ³ (respirable dust and fume)
OEL STEL	10 mg/m ³ (respirable dust and fume)
Canada (Manitoba) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (inhalable particulate matter)
Canada (New Brunswick) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (fume)
Canada (Newfoundland and Labrador) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (inhalable particulate matter)
Canada (Nova Scotia) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (inhalable particulate matter)
Canada (Nunavut) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (inhalable fraction)
OEL STEL	20 mg/m ³ (inhalable fraction)
Canada (Northwest Territories) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (inhalable fraction)
OEL STEL	20 mg/m ³ (inhalable fraction)
Canada (Ontario) - Occupational Exposure Limits	
OEL TWA _{EV}	10 mg/m ³ (inhalable)

Canada (Prince Edward Island) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (inhalable particulate matter)
Canada (Saskatchewan) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (inhalable fraction)
OEL STEL	20 mg/m ³ (inhalable fraction)
Canada (Yukon) - Occupational Exposure Limits	
OEL TWA	10 mg/m ³ (fume)
OEL STEL	10 mg/m ³ (fume)
USA - ACGIH - Occupational Exposure Limits	
ACGIH® TLV® TWA	10 mg/m ³ (inhalable particulate matter)
ACGIH® chemical category	Not Classifiable as a Human Carcinogen
USA - OSHA - Occupational Exposure Limits	
OSHA PEL TWA	15 mg/m ³ (fume, total particulate)

8.2. Appropriate engineering controls

Appropriate engineering controls	: Ensure good ventilation of the work station.
Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation.

8.3. Individual protection measures/Personal protective equipment

Personal protective equipment:

Avoid all unnecessary exposure.

Hand protection:

Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Eye protection:

Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.

Skin and body protection:

Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection:

Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Hygiene measures:

Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Color	: Brown
Odor	: None
Odor threshold	: No data available
pH	: No data available
Relative evaporation rate (butyl acetate=1)	: No data available
Relative evaporation rate (ether=1)	: No data available
Melting point	: Not applicable
Freezing point	: No data available
Boiling point	: No data available
Flash point	: No data available
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Non flammable.
Vapor pressure	: No data available
Relative vapor density at 20°C	: No data available
Relative density	: No data available
Solubility	: No data available
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Explosion limits	: No data available
Particle characteristics	: 2 – 3 mm

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

Reactivity	: The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid humidity.
Incompatible materials	: Incompatible with oxidizing agents.
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Harmful if swallowed.
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

EZ 20 Essential Zinc	
ATE CA (oral)	1000 mg/kg body weight
Zinc oxide (ZnO) (1314-13-2)	
LD50 oral rat	> 5000 mg/kg
Zinc sulfate (7733-02-0)	
LD50 oral rat	1710 mg/kg
ATE CA (oral)	500 mg/kg body weight
Sulfuric acid, iron(2+) salt (1:1) (7720-78-7)	
LD50 oral rat	319 mg/kg
LD50 dermal rat	155 mg/kg
Calcium sulfate (7778-18-9)	
LD50 oral rat	> 3000 mg/kg
Urea (57-13-6)	
LD50 oral rat	8471 mg/kg
Calcium oxide (1305-78-8)	
LD50 oral rat	500 mg/kg
Magnesium oxide (MgO) (1309-48-4)	
LD50 oral rat	3870 mg/kg
Skin corrosion/irritation	: Causes skin irritation.
Serious eye damage/irritation	: Causes serious eye damage.
Respiratory or skin sensitization	: Not classified
Germ cell mutagenicity	: Not classified
Carcinogenicity	: Not classified
Reproductive toxicity	: Not classified
STOT-single exposure	: Not classified
STOT-repeated exposure	: Not classified
Aspiration hazard	: Not classified

SECTION 12: Ecological information

12.1. Toxicity

Zinc sulfate (7733-02-0)	
LC50 - Fish [1]	0.162 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [flow-through])
LC50 - Fish [2]	0.03 – 0.05 mg/l (Exposure time: 96 h - Species: Oncorhynchus mykiss [semi-static])
EC50 - Crustacea [1]	0.75 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 - Crustacea [2]	0.538 – 0.908 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])
EC50 72h - Algae [1]	0.056 mg/l (Species: Pseudokirchneriella subcapitata [static])
Sulfuric acid, iron(2+) salt (1:1) (7720-78-7)	
LC50 - Fish [1]	925 mg/l (Exposure time: 96 h - Species: Poecilia reticulata [static])

Sulfuric acid, iron(2+) salt (1:1) (7720-78-7)

LC50 - Fish [2]	0.56 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [semi-static])
EC50 - Crustacea [1]	152 mg/l (Exposure time: 48 h - Species: Daphnia magna)
EC50 - Crustacea [2]	6.15 – 9.26 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

Calcium sulfate (7778-18-9)

LC50 - Fish [1]	2980 mg/l (Exposure time: 96 h - Species: Lepomis macrochirus [static])
LC50 - Fish [2]	> 1970 mg/l (Exposure time: 96 h - Species: Pimephales promelas [static])

Urea (57-13-6)

LC50 - Fish [1]	16200 – 18300 mg/l (Exposure time: 96 h - Species: Poecilia reticulata)
EC50 - Crustacea [1]	3910 mg/l (Exposure time: 48 h - Species: Daphnia magna [Static])

Calcium oxide (1305-78-8)

LC50 - Fish [1]	1070 mg/l (Exposure time: 96 h - Species: Cyprinus carpio [static])
-----------------	---

12.2. Persistence and degradability

EZ 20 Essential Zinc

Persistence and degradability	Not established.
-------------------------------	------------------

Zinc oxide (ZnO) (1314-13-2)

Persistence and degradability	Rapidly degradable
-------------------------------	--------------------

Zinc sulfate (7733-02-0)

Persistence and degradability	Rapidly degradable
-------------------------------	--------------------

Sulfuric acid, iron(2+) salt (1:1) (7720-78-7)

Persistence and degradability	Rapidly degradable
-------------------------------	--------------------

Calcium sulfate (7778-18-9)

Persistence and degradability	Rapidly degradable
-------------------------------	--------------------

Urea (57-13-6)

Persistence and degradability	Rapidly degradable
-------------------------------	--------------------

Calcium oxide (1305-78-8)

Persistence and degradability	Rapidly degradable
-------------------------------	--------------------

Magnesium oxide (MgO) (1309-48-4)

Persistence and degradability	Rapidly degradable
-------------------------------	--------------------

12.3. Bioaccumulative potential

EZ 20 Essential Zinc

Bioaccumulative potential	Not established.
---------------------------	------------------

Zinc sulfate (7733-02-0)

BCF - Fish [1]	59 – 112
----------------	----------

Urea (57-13-6)

BCF - Fish [1]	< 10
Partition coefficient n-octanol/water (Log Pow)	-1.59 (at 25 °C)

Calcium oxide (1305-78-8)

BCF - Fish [1]	(no bioaccumulation)
----------------	----------------------

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

Ozone	: Not classified
Other information	: Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Disposal methods

Product/Packaging disposal recommendations	: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.
--	--

SECTION 14: Transport information

In accordance with TDG / DOT / IMDG / IATA

14.1. UN number

UN-No. (TDG)	: UN3077
UN-No. (DOT)	: UN3077
UN-No. (IMDG)	: 3077
UN-No. (IATA)	: 3077

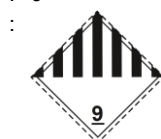
14.2. UN proper shipping name

Proper Shipping Name (TDG)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide, Zinc sulfate)
Proper Shipping Name (DOT)	: Environmentally hazardous substances, solid, n.o.s. (Zinc oxide, Zinc sulfate)
Proper Shipping Name (IMDG)	: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Zinc oxide, Zinc sulfate)
Proper Shipping Name (IATA)	: Environmentally hazardous substance, solid, n.o.s. (Zinc oxide, Zinc sulfate)

14.3. Transport hazard class(es)

TDG

Transport hazard class(es) (TDG)	: 9
Hazard labels (TDG)	: 9



DOT

Transport hazard class(es) (DOT) : 9

Hazard labels (DOT) : 9



IMDG

Transport hazard class(es) (IMDG) : 9

Hazard labels (IMDG) : 9



IATA

Transport hazard class(es) (IATA) : 9

Hazard labels (IATA) : 9



14.4. Packing group

Packing group (TDG) : III

Packing group (DOT) : III

Packing group (IMDG) : III

Packing group (IATA) : III

14.5. Environmental hazards

Dangerous for the environment : No

Other information : No supplementary information available.

14.6. Special precautions for user

TDG

UN-No. (TDG) : UN3077

TDG Special Provisions

- : 16 - (1) The technical name of at least one of the most dangerous substances that predominantly contributes to the danger or dangers posed by the dangerous goods must be shown, in parentheses, on the shipping document following the shipping name in accordance with clause 3.5(1)(c)(ii)(A). The technical name must also be shown, in parentheses, on a small means of containment or on a tag following the shipping name in accordance with subsections 4.11(2) and (3).
- (2) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a shipping document or on a small means of containment when Canadian law for domestic transport or an international convention for international transport prohibits the disclosure of the technical name:
- (a) UN1544, ALKALOID SALTS, SOLID, N.O.S. or ALKALOIDS, SOLID, N.O.S;
 - (b) UN1851, MEDICINE, LIQUID, TOXIC, N.O.S;
 - (c) UN3140, ALKALOID SALTS, LIQUID, N.O.S. or ALKALOIDS, LIQUID, N.O.S;
 - (d) UN3248, MEDICINE, LIQUID, FLAMMABLE, TOXIC, N.O.S; or
 - (e) UN3249, MEDICINE, SOLID, TOXIC, N.O.S.
- (3) Despite subsection (1), the technical name for the following dangerous goods is not required to be shown on a small means of containment:
- (a) UN2814, INFECTIOUS SUBSTANCE, AFFECTING HUMANS; or
 - (b) UN2900, INFECTIOUS SUBSTANCE, AFFECTING ANIMALS, 99 - (1) Mixtures of solids that are not dangerous goods and liquids or solids that are UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, may be offered for transport, handled or transported as UN3077 if there is no visible liquid when the dangerous goods are loaded into a means of containment and during transport.
- (2) These Regulations, except for Parts 1 and 2, do not apply to the offering for transport, handling or transport of less than 450 kg of UN3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S, or less than 450 L of UN3082, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S, on a road vehicle or a railway vehicle. The dangerous goods must be contained in one or more small means of containment designed, constructed, filled, closed, secured and maintained so that under normal conditions of transport, including handling, there will be no release of the dangerous goods that could endanger public safety.

Explosive Limit and Limited Quantity Index
 Excepted quantities (TDG)
 Emergency Response Guide (ERG) Number

- : 5 kg
 : E1
 : 171

DOT

UN-No. (DOT)

- : UN3077

DOT Special Provisions (49 CFR 172.102)

- : 8 - A hazardous substance that is not a hazardous waste may be shipped under the shipping description "Other regulated substances, liquid or solid, n.o.s.", as appropriate. In addition, for solid materials, special provision B54 applies.
- 146 - This description may be used for a material that poses a hazard to the environment but does not meet the definition for a hazardous waste or a hazardous substance, as defined in 171.8 of this subchapter, or any hazard class as defined in Part 173 of this subchapter, if it is designated as environmentally hazardous by the Competent Authority of the country of origin, transit or destination.
- 335 - Mixtures of solids that are not subject to this subchapter and environmentally hazardous liquids or solids may be classified as "Environmentally hazardous substances, solid, n.o.s.," UN3077 and may be transported under this entry, provided there is no free liquid visible at the time the material is loaded or at the time the packaging or transport unit is closed. Each transport unit must be leak-proof when used as bulk packaging.
- 384 - For transportation by motor vehicle, substances meeting the conditions for high viscosity flammable liquids as prescribed in §173.121(b)(1)(i), (b)(1)(ii), and (b)(1)(iv) of this subchapter, may be reassigned to Packing Group III under the following conditions:
- A112 - Notwithstanding the quantity limits shown in Column (9A) and (9B) for this entry, the following IBCs are authorized for transportation aboard passenger and cargo-only aircraft. Each IBC may not exceed a maximum net quantity of 1,000 kg:
 - a. Metal: 11A, 11B, 11N, 21A, 21B and 21N
 - b. Rigid plastics: 11H1, 11H2, 21H1 and 21H2
 - c. Composite with plastic inner receptacle: 11HZ1, 11HZ2, 21HZ1 and 21HZ2
 - d. Fiberboard: 11G
 - e. Wooden: 11C, 11D and 11F (with inner liners)
 - f. Flexible: 13H2, 13H3, 13H4, 13H5, 13L2, 13L3, 13L4, 13M1 and 13M2 (flexible IBCs must be sift-proof and water resistant or must be fitted with a sift-proof and water resistant liner).
- B54 - Open-top, sift-proof rail cars are also authorized.
- B120 - The use of flexible bulk containers conforming to the requirements in subpart R and subpart S of part 178 of this subchapter is permitted.
- IB8 - Authorized IBCs: Metal (11A, 11B, 11N, 21A, 21B, 21N, 31A, 31B and 31N); Rigid plastics (11H1, 11H2, 21H1, 21H2, 31H1 and 31H2); Composite (11HZ1, 11HZ2, 21HZ1, 21HZ2, 31HZ1 and 31HZ2); Fiberboard (11G); Wooden (11C, 11D and 11F); Flexible (13H1, 13H2, 13H3, 13H4, 13H5, 13L1, 13L2, 13L3, 13L4, 13M1 or 13M2).
- IP3 - Flexible IBCs must be sift-proof and water-resistant or must be fitted with a sift-proof and water-resistant liner.
- N20 - A 5M1 multi-wall paper bag is authorized if transported in a closed transport vehicle.
- N91 - The use of a non specification sift-proof, non-bulk, metal can with or without lid, or a non specification sift-proof, non-bulk fiber drum, with or without lid is authorized when transporting coal tar pitch compounds by motor vehicle or rail freight. The fiber drum must be fabricated with a three ply wall, as a minimum. The coal tar pitch compound must be in a solid mass during transportation.
- T1 - 1.5 178.274(d)(2) Normal..... 178.275(d)(2)
- TP33 - The portable tank instruction assigned for this substance applies for granular and powdered solids and for solids which are filled and discharged at temperatures above their melting point which are cooled and transported as a solid mass. Solid substances transported or offered for transport above their melting point are authorized for transportation in portable tanks conforming to the provisions of portable tank instruction T4 for solid substances of packing group III or T7 for solid substances of packing group II, unless a tank with more stringent requirements for minimum shell thickness, maximum allowable working pressure, pressure-relief devices or bottom outlets are assigned in which case the more stringent tank instruction and special provisions shall apply. Filling limits must be in accordance with portable tank special provision TP3. Solids meeting the definition of an elevated temperature material must be transported in accordance with the applicable requirements of this subchapter.

DOT Packaging Exceptions (49 CFR 173.xxx)

DOT Packaging Non Bulk (49 CFR 173.xxx)

DOT Packaging Bulk (49 CFR 173.xxx)

DOT Quantity Limitations Passenger aircraft/rail (49 CFR 173.27)

: 155

: 213

: 240

: No Limit

DOT Quantity Limitations Cargo aircraft only (49 CFR 175.75)	: No Limit
DOT Vessel Stowage Location	: A - The material may be stowed "on deck" or "under deck" on a cargo vessel and on a passenger vessel.

IMDG

Special provision (IMDG)	: 274, 335, 375, 966, 967, 969
Limited quantities (IMDG)	: 5 kg
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: LP02, P002
Packing provisions (IMDG)	: PP12
IBC packing instructions (IMDG)	: IBC08
IBC special provisions (IMDG)	: B3
Tank instructions (IMDG)	: BK1, BK2, BK3, T1
Tank special provisions (IMDG)	: TP33
EmS-No. (Fire)	: F-A - FIRE SCHEDULE Alfa - GENERAL FIRE SCHEDULE
EmS-No. (Spillage)	: S-F - SPILLAGE SCHEDULE Foxtrot - WATER-SOLUBLE MARINE POLLUTANTS
Stowage category (IMDG)	: A
Stowage and handling (IMDG)	: SW23

IATA

PCA Excepted quantities (IATA)	: E1
PCA Limited quantities (IATA)	: Y956
PCA limited quantity max net quantity (IATA)	: 30kgG
PCA packing instructions (IATA)	: 956
PCA max net quantity (IATA)	: 400kg
CAO packing instructions (IATA)	: 956
CAO max net quantity (IATA)	: 400kg
Special provision (IATA)	: A97, A158, A179, A197, A215
ERG code (IATA)	: 9L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. National regulations

Zinc oxide (ZnO) (1314-13-2)

Listed on the Canadian DSL (Domestic Substances List)

Zinc sulfate (7733-02-0)

Listed on the Canadian DSL (Domestic Substances List)

Sulfuric acid, iron(2+) salt (1:1) (7720-78-7)

Listed on the Canadian DSL (Domestic Substances List)

Calcium sulfate (7778-18-9)

Listed on the Canadian DSL (Domestic Substances List)

Urea (57-13-6)

Listed on the Canadian DSL (Domestic Substances List)

Calcium oxide (1305-78-8)

Listed on the Canadian DSL (Domestic Substances List)

Magnesium oxide (MgO) (1309-48-4)

Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: Other information

Date of Issue: 4/9/2026

Date of Previous Issue: -

Version: 1

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.