SAFETY DATA SHEET

This document is prepared in compliance with OSHA HazCom Standard 29 CFR 1910.1200(g) and GHS Rev 03.

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name : Nutricote Total 17-7-8-270-2S
General Use : Fertilizer
Product Description : Ammonium nitrate based fertilizer
SDS Number : CF17-7-8

MANUFACTURER

Company Name: Arysta LifeScience America Inc.
Address : 1450 Broadway (20th Floor) New York, New York 10018
Telephone No. : +1-(212)-930-5111

EMERGENCY TELEPHONE NUMBER :

: CHEMTREC
United States: (800)424-9300 24 hours Everyday
International: +1-(703)527-3887(Collect) 24 hours Everyday

2. SUMMARY OF HAZARDS AND TOXICITIES

GHS CLASSIFICATION

PHYSICAL AND CHEMICAL HAZARDS

Flammable solid	:Not classified
Phyrophoric solid	:Not classified
Oxidizing solid	:Not classified
Corrosive to metal	:Not classified

HEALTH HAZARDS

Acute toxicity(oral)	:Not classified
Acute toxicity(skin)	: Not applicable
Acute toxicity(inhalation)	:Not classified
Dermal corrosion /irritation	:Not classified
Serious eye damage / irritancy	:Not classified
Respiratory sensitivity	:Not applicable
Skin sensitivity	:Not applicable
Gem cell mutagenicity	:Not classified
Carcinogenicity	:Not applicable
Reproductive toxicity	:Not classified
Specific target organ systemic toxicity (Single exposure)	:Not classified
Specific target organ systemic toxicity (Repeated exposure)	:Not classified
Aspiration hazard	:Not applicable

SAFETY DATA SHEET

ENVIRONMENTAL HAZARDS
Acute hazardous to the aquatic environmental :Not classified
Chronic hazardous to the aquatic environmental :Not classified

GHS LABEL ELEMENT

PICTOGRAM

SIGNAL WORD : Warning

HAZARD STATEMENT(s):
Harmful if swallowed.
Causes skin irritation.
Causes serious eye irritation
Harmful if inhaled.

PRECAUTIONARY STATEMENT(s):
Avoid breathing dust, fume, gas, mist, vapors or spray.
Wash hands and skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Use only outdoors or in a well-ventilated area.
Wear protective gloves.
Wear eye protection/face protection.
IF SWALLOWED: Call a POISON CENTRE/doctor if you feel unwell.
IF ON SKIN: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
IF IN EYES: Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do, continue rinsing.
Call a POISON CENTRE/doctor if you feel unwell.
Rinse month.
If skin irritation occurs: Get medical advice/attention.
If eye irritation persists: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Dispose of contents/container in accordance with local, regional,
national and international regulations.

SAFETY DATA SHEET

3. COMPOSITION/INFORMATION ON INGREDIENTS

This product is a compound fertilizer coated with polyolefin type resin.

Chemical Composition (Typical Analysis)

Chemical Name	wt%	CAS No.	Chemical Formula
Ammonium Sulfate	0.3	7783-20-2	$(NH_4)_2SO_4$
Ammonium Nitrate	47.5	6484-52-2	NH_4NO_3
Monobasic Ammonium Phosphate	11.0	7722-76-1	$NH_4H_2PO_4$
Calcium Phosphate	1.3	7757-93-9	$CaHPO_4$
Potassium Sulfate	15.5	7778-80-5	K_2SO_4
Magnesium Sulfate	10.0	7487-88-9	$MgSO_4$
EDTA	1.4	60-00-4	$C_{10}H_{16}N_2O_8$
EDTA-FeNa	0.2	15708-41-5	$C_{10}H_{12}FeN_2NaO_8$
Iron sulfate	0.75	7720-78-7	$FeSO_4$
Manganese Sulfate Hydrate	0.27	10034-96-5	$MnSO_4 \cdot H_2O$
Copper Sulfate Hydrate	0.16	10257-54-2	$CuSO_4 \cdot H_2O$
Boric acid	0.14	10043-35-3	H_3BO_3
Disodium Molybdate Hydrate	0.06	10102-40-6	$Na_2MoO_4 \cdot 2H_2O$
Zinc Sulfate Hydrate	0.05	7446-19-7	$ZnSO_4 \cdot H_2O$
Silica Fumes	0.9	69012-64-2	SiO_2
Others *1	1.0	—	—
Polyolefin *2	4.8	—	—
Talc	4.7	14807-96-6	—

*1 Others contain Gypsum etc.
*2 Polyolefin contains polyethylene etc.

4. FIRST AID MEASURES

INHALATION : In case of accidental inhalation of fumes from overheating or combustion, move to fresh air. If needed, seek medical attention.

EYE : In case of dust or granule in the eyes, flush with plenty of running water.

SKIN : Wash thoroughly with soap and water.

INGESTION : If conscious, give plenty of water to drink and provoke vomiting.

SAFETY DATA SHEET

If needed, call a doctor.

PROTECTION TO FIRST-AIDs : Not Applicable

5. FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES: Material is essentially non-flammable.
EXTINGUISHING MEDIA: Water
FIRE FIGHTING INSTRUCTIONS:
Remove the product from combustible materials as it may support combustion of them.
When heated to decomposition, it emits toxic fume of NOx, SOx and ammonia.
Remove the product from the source of fire.
If it is difficult to move, flush with plenty of water.
Do not enter fire area without self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

LAND SPILL: Sweep up and shovel into suitable containers for disposal.
Avoid contact with combustibles. Reuse as fertilizer, if possible.

WATER SPILL: Keep out of water supplies, lakes, ponds, streams and rivers.

7. HANDLING AND STORAGE

HANDLING: Handle in accordance with good industrial hygiene and safety practice.
Avoid mixing with fuels, other combustible materials and strong alkaline agents.

STORAGE: The product is hygroscopic and should therefore be stored in a dry place.
Store away from reducing agents. Keep out of reach of children.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

EXPOSURE LIMIT VALUES: Not Established

EXPOSURE CONTROLS
Occupational Exposure Controls
Engineering Controls: No specific controls are needed.

SAFETY DATA SHEET

Personal protection: Normally not required. In extremely dusty conditions, appropriate protective equipment is recommended.

Respiratory Protection : Dust mask with particle filter
Hand Protection : Rubber gloves
Eye Protection : Safety goggles
Skin Protection : Normal clean work clothing

Environmental Exposure Controls
Not Available

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Solid, Grey granules
Odor	:	Odorless
pH	:	5.0 (10% Aq.)
Melting point/Melting range	:	Not Applicable
Decomposition temperature	:	Not Available
Flash point	:	Not Available
Flammability	:	None
Relative Density	:	1.1 g/cm^3 (Bulk Density)
Solubility	:	Fertilizer inside the coating dissolves in water gradually.

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID: High Heating. See section5.

STABILITY: Stable

MATERIALS TO AVOID: Strong alkaline agents

HAZARDOUS REACTIONS/ DECOMPOSITION PRODUCTS:
Nitrogen oxides (NOx), Sulfur oxides(SOx), Ammonia

11. TOXICOLOGICAL INFORMATION

Acute toxicity(oral) :Not classified
There is harmful information, such as the following for the following substances is a constituent.
<Ammonium nitrate>
Rat LD50 values: 2450, 4820mg / kg (ECETOC TR 27 (1989)). (GHS classification: Not

SAFETY DATA SHEET

classified)
<Ethylene diamine tetra-acetic acid: EDTA>
LD50 values in rats> 2000mg / kg (EU-RAR 49 (2004)), 2580,4500mg / kg (NITE initial risk assessment report Ver.1.1, 14 (2007)). (GHS classification: Not classified)
As these constituents are not classified, we have concluded that these are not classified.

Acute toxicity(skin) :Not applicable No data

Acute toxicity(inhalation) :Not classified
There is harmful information, such as the following for the following substances is a constituent.
<Ammonium nitrate>
Rat LC50 (4 hours) value:> 88.8mg / L (IUCLID, 2000). (GHS classification: Not classified)
<Ethylene diamine tetra-acetic acid: EDTA>
Can not be classified in the lack of data. When inhale for 8 hour where fine powders are saturated at 20 ℃ and 80 ℃, no death is reported. (NITE initial risk assessment report Ver.1.1, 14 (2007)) (GHS classification: Can not be classified)
As these constituents are not classified, we have concluded that these can't be classified.

Dermal corrosion / irritation :Not classified
Have the following such harmful information about the following materials is a constituent.
<Ammonium nitrate>
ICSC (J) (2001), HSDB (2005), HSFS (1998) and SITTIG (4th, 2002) there is a description of that it might stimulate the skin, but there is no description of the specific case. In addition, skin irritation has not been observed by two tests with rabbits. (IUCLID (2000)). (GHS classification: Can not be classified)
<Ethylene diamine tetra-acetic acid EDTA>
Reported that there is no irritation in the Draize test of rabbit (NITE initial risk assessment report Ver.1.1, (2007)), and in another test using a rabbit, it was reported that if applied this material for 20 hours to ears of rabbit and observed a mild irritation after 24 hours. (EU-RAR 49 (2004)). (GHS classification: Not classified)
As these constituents are not classified, we have concluded that these are not classified.

Serious eye damage / irritancy :Not classified
Have the following such harmful information about the following materials is a constituent.
<Ammonium nitrate>
There was no changes observed, which corresponds to the irritation as per the irritation criteria, by the eye irritation test using rabbits described in ECETOC TR 48 (1992). There is a description in ICSC (J) (2001), HSDB (2005), HSFS (1998) that it is irritating to the human eye, but there is no description of the specific case. (GHS classification: Not classified)
<Ethylene diamine tetra-acetic acid: EDTA>

SAFETY DATA SHEET

There is a description in EU-RAR 49 (2004) that strong stimulation, mild edema, and strong corneal opacity was observed by the test applying 50mg to rabbit eye. However, the symptoms disappeared after 8 days. (GHS classification: classification 2B)

Though EDTA is classified as 2B in GHS classification, we have concluded that these constituents are not classified as their concentration is not more than 10%.

Respiratory sensitivity :Not applicable No data

Skin sensitivity : Not applicable No data

Have the following such harmful information about the following materials is a constituent.

<Ethylene diamine tetra-acetic acid: EDTA>

No data available. For the disodium salt of this substance, it is reported that 30% of guinea pigs after 24 hours and 10% of guinea pigs after 7 days in a maximization test are positive in EU-RAR 49 but it is said that there is no sensitivity by a different maximization test. (NITE initial risk assessment report Ver.1.1, 14(2007))

(GHS classification: Can not be classified.)

As there are no sufficient data of the constituents, we have concluded that these can't be classified.

Gem cell mutagenicity :Not classified

There is a hazard information such as the following for the following substances is a constituent.

<Ammonium nitrate>

There is a description in (IUCLID) (2000) that it is negative by the Ames test as a vitro mutagenicity test reported (GHS classification: Can not be classified because there is no in vivo test of data.)

<Ethylene diamine tetra-acetic acid: EDTA>

Negative results are reported in EU-RAR 49(2004) using disodium salt of this substance as in vivo study by a dominant lethal test applying through drinking water administration to the mouse (germ cells in vivo heritable mutagenicity test), a chromosome aberration test using spermatogonial cells applying through intraperitoneal administration to the mouse (reproductive cells in vivo mutagenicity test), a micronucleus test using bone marrow applying through oral and intraperitoneal administration to the mouse (somatic cell in vivo mutagenicity test). Also, in vitro test, negative results are reported in the Ames test using this trisodium salt of this material and in mouse lymphoma assay test. (EU-RAR 49 (2004), (Industrial Safety and Health Act, Mutagenicity Data c Appendix 2 edition (2000). In addition, although there is a positive result report by chromosome aberration test using bone marrow cells and spleen cells of mice with this substance (somatic cell in vivo mutagenicity test) in NITE initial risk assessment report Ver.1.1, 14 (2007), we have not interpreted this is not an enough evidence for the classification as the route of administration or applied amount is not mentioned in the aforesaid reports and our expert advised that it is doubtful to secure the reproducibility of these results. (GHS classification: Not classified)

As these constituents are not classified, we have concluded that these are not classified.

SAFETY DATA SHEET

Carcinogenicity :Not applicable No data

There is a hazard information such as the following for the following substances is a constituent.

<Ammonium nitrate>

No data available. It should be noted, IARC (IARC Vol.94 (2010)) reported that nitrate intake by human is uncertain to cause cancer. However, it says that the carcinogenicity is evaluated as 2A in a condition when nitrate or nitrite become Nitroso in vivo.The comprehensive evaluation of IARC also reports that "The conversion ofnitrateandnitrite occurs inside the human body. Nitroso arising from nitrite under acidic conditions of the digestive tract is immediately changed to N-nitroso compound togetherwithamide having a high tendency to turn to Nitroso. If intake nitrate,nitrite, or nitroso compounds further, nitrosation of these materials is even promoted.Under such conditions,some type of N-nitroso compound happens to cause a carcinogen."(GHS classification:Can not be classified)

<Ethylene diamine tetra-acetic acid: EDTA>

No data available. Although it is reported that no tumors are observed in 103-week feeding study with rats and mice using trisodium salt of this material, it was not done by the maximum tolerated dose. (EU-RAR 49 (2004)). (GHS classification: Can not be classified)

As there are no sufficient data of the constituents, we have concluded that these can't be classified.

Reproductive toxicity :Not classified

There is a hazard information such as the following for the following substances is a constituent.

<Ammonium nitrate>

It is reported in (IUCLID (2000) that body weight of the pups have been suppressed by the reproduction study in rats but the details are unknown. (GHS classification: Can not be classified)

<Ethylene diamine tetra-acetic acid: EDTA>

There was no influence to the pups at a dose which caused death, diarrhea and behavioral suppression to the parent rat by forced oral administration to 7-14 days pregnant rat. (NITE initial risk assessment report Ver .1.1, 14 (2007) However, despite of having no description for the general toxicity to the parent rat, cleft palate, brain and eye defects, and skeletal abnormalities are observed to the offspring when applied through dietary administration to 6th day pregnant rat. (Teratogenic is (12th, 2007). Furthermore, malformations have been reported in the offspring when administered intraperitoneally or intramuscularly to the pregnant rat. (NITE initial risk assessment report Ver.1.1, 14 (2007), JECFA 796 (1993)). (GHS classification: Category 2)

Though EDTA is classified as 2 in GHS classification, we have concluded that these constituents are not classified as their concentration is not more than 3%.

Specific target organ systemic toxicity (Single exposure) :Not classified

There is a hazard information such as the following for the following substances is a

SAFETY DATA SHEET

constituent.
<Ammonium nitrate>
No data available.

<Ethylene diamine tetra-acetic acid: EDTA>
No data available.However, if disodium salt (Na2EDTA) is administered intravenously as a plumbism antidote, numbness and tingling around mouth and hands are appeared as an acute symptom. (NITE initial risk evaluation report Ver.1.1, 14 (2007)). (GHS classification: Can not be classified)
Since Ammonium Nitrate is classified as Category 1 (blood) in GHS classification, we have concluded that these constituents are classified as Category 1 as their concentration is more than 10%.

Specific target organ systemic toxicity (Repeated exposure) : Not classified.
There is a hazard information such as the following for the following substances is a constituent.
<Ammonium nitrate>
No data available
<Ethylene diamine tetra-acetic acid EDTA>
As an impact to human, there is a description that a large amount oral intake of EDTA and its salts (sodium, calcium disodium) over a long period of time causes kidney tubule failure. (NITE initial risk assessment report Ver.1.1, 14 (2007)). In addition, as related substances information, CaNa2EDTA formulation is sold as an antidote for lead poisoning, it is said that tubular damage by long-term administration in tablets, transient proteinuria in the drip injection, and tubular damage by long-term administration in the drip injection in its side effects information. It also warns that serious consequences such as death by nephrotoxicity might occur as a result of bolus injection.(Ministry of the Environment Risk Assessment Volume 3 (2004)). (GHS classification: Category 1 (kidney).
Since Ammonium Nitrate is classified as Category 1 (blood) in GHS classification, we have concluded that these constituents are classified as Category 1 as their concentration is more than 10%.Since EDTA is classified as Category 1 (kidney) in GHS classification, we have concluded that these constituents are classified as Category 1 as their concentration is more than 1%.

Aspiration hazard :Not applicable No data

ENVIRONMENTAL HAZARD
Acute hazardous to the aquatic environmental :Not classified
There is a hazard information such as the following for the following substances is a constituent.
<Ammonium nitrate>
Fish (Chinook salmon, rainbow trout, bluegill) : 96 hours LC50 = 420-1360 mg NO3 / L (SIDS, 2007) (in terms of ammonium nitrate concentration: 542-1756mg / L)

SAFETY DATA SHEET

Crustacean (Daphnia magna) : 24-hour EC50 = 555mg / L in (SIDS, 2007).
(GHS classification: Not classified)
<Ethylene diamine tetra-acetic acid: EDTA>
Classified as Category 3 from the result of 96-hour LC50 = 41mg / L (EU-RAR,2005,etc.) for fish (bluegill)(GHS classification: Category 3).
Though EDTA is classified as 3 in GHS classification, we have concluded that these constituents are not classified as their concentration is less than 25%.

Chronic hazardous to the aquatic environmental :Not classified
There is a hazard information such as the following for the following substances is a constituent.
<Ammonium nitrate>
Rather than a poorly water-soluble (water solubility = 2,000g / L (SIDS, 2007)), has a low acute toxicity.(GHS classification: Not classified)
<Ethylene diamine tetra-acetic acid: EDTA>
When using chronic toxicity data, this material does not degrade rapidly (degree of degradation by BOD in 4 weeks: 0% (existing inspection, 1994)) but it is notclassified as 21 days NOEC = 5.5mg / L (Ministry of the Environment ecological effects test of crustaceans (Daphnia magna),2002, etc.). If acute toxicity data is used against trophic levels where chronic toxicity data are not available, be cause there is no rapid degradability (degree of degradation by BOD in 4 weeks: 0% (existing inspection, 1994)) and fish (bluegill) 96 hours LC50 = 41mg / L (EU-RAR, 2005, etc.) are confirmed, classified as Category 3. (GHS classification: Category 3).
Though EDTA is classified as 3 in GHS classification, we have concluded that these constituents are not classified as their concentration is less than 25%.

12. ECOLOGICAL INFORMATION

ECOTOXICITY: Large amounts of product released to water systems will be harmful to aquatic plant and animal life.

PERSISTENCE AND DEGRADABILITY:
Fertilizer granules are soluble in water and biodegradable.
Coating materials are persistent and not biodegradable.

BIOACCUMULATIVE POTENTIAL: Not available.

13. DISPOSAL CONSIDERATIONS

Safe disposal methods: Uncontaminated product may be reused as fertilizer.
Classify waste under applicable federal, state and local regulations.

SAFETY DATA SHEET

Do not dump this product into sewers, on the ground or into any body of water.

14. TRANSPORT INFORMATION:

Since the situations may be difference case by case and the description below may not always apply, please consult 49 CFR or other regulations for dangerous goods for additional description requirement(e.g. technical name) and mode- or quantity- specific shipping requirements.

DOT: Land -Not regulated
Air -UN 2071, Ammonium Nitrate Based Fertilizer, Class 9, PG Ⅲ
Vessel - UN 2071, Ammonium Nitrate Based Fertilizer, Class 9, PG Ⅲ

IMDG: -UN 2071, Ammonium Nitrate Based Fertilizer, Class 9, PG Ⅲ, Marine Pollutant NA

ICO/IATA: -UN 2071, Ammonium Nitrate Based Fertilizer, Class 9, PG Ⅲ

TDG: - UN 2071, Ammonium Nitrate Based Fertilizer, Class 9, PG Ⅲ
Not regulated by road transport to retail end user in quantities ≤ 13.6 ton

15. REGULATORY INFORMATION

OSHA STATUS: 29 CFR 1910.1200**.**
TSCA STATUS: see 2. COMPOSITION/INFORMATION ON INGREDIENTS
CERCLA REPORTABLE QUANTITY (40CFR117,302): None
SARA TITLE Ⅲ
SECTION 302 (40 CFR 355) : None
SECTION 311/312 (40 CFR 370)

1. **Immediate (Acute) Health Effect ;** No
2. **Delayed (Chronic) Health Effect;** No
3. **Fire Hazard;** No
4. **Sudden Release of Pressure Hazard;** No
5. **Reactivity Hazard;** No

SECTION 313 (40 CFR 372) : None

WHMIS: Class C Oxidizer

This product has been classified according to the hazard criteria of the CPR and the SDS contains all the information required by the CPR.
Please refer other details, state, provincial and/or local authorities and their regulations.

SAFETY DATA SHEET

16. OTHER INFORMATION

This information is furnished without warranty, express or implied, except that it is accurate to the best knowledge of Arysta LifeScience America Inc.

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