

# *Chem-Impex International Inc.*

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## SAFETY DATA SHEET

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### SECTION 1. CHEMICAL IDENTIFICATION

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CATALOG #:	37253
NAME:	Guanidine nitrate
SYNONYMS:	Guanidinium nitrate
24 HOUR EMERGENCY TELEPHONE:	(800) 535-5053(USA) 352-323-3500 (INTERNATIONAL)
TO REQUEST AN MSDS:	(800) 869-9290
CUSTOMER SERVICE:	(630) 766-2112

### SECTION 2. HAZARDS IDENTIFICATION

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#### CLASSIFICATION OF THE SUBSTANCE OR MIXTURE

#### GHS CLASSIFICATION IN ACCORDANCE WITH 29 CFR 1910 (OSHA HCS)

OXIDIZING SOLIDS (CATEGORY 3), H272

ACUTE TOXICITY, ORAL (CATEGORY 4), H302

EYE IRRITATION (CATEGORY 2A), H319

SHORT-TERM (ACUTE) AQUATIC HAZARD (CATEGORY 3), H402

LONG-TERM (CHRONIC) AQUATIC HAZARD (CATEGORY 3), H412

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

**GHS LABEL ELEMENTS, INCLUDING PRECAUTIONARY STATEMENTS  
PICTOGRAM**



SIGNAL WORD                      WARNING

**HAZARD STATEMENT(S)**

H272                      MAY INTENSIFY FIRE; OXIDIZER.  
H302                      HARMFUL IF SWALLOWED.  
H319                      CAUSES SERIOUS EYE IRRITATION.  
H412                      HARMFUL TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

**PRECAUTIONARY STATEMENT(S)**

P210                      KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES. - NO SMOKING.  
P220                      KEEP/STORE AWAY FROM CLOTHING/ COMBUSTIBLE MATERIALS.  
P221                      TAKE ANY PRECAUTION TO AVOID MIXING WITH COMBUSTIBLES.  
P264                      WASH SKIN THOROUGHLY AFTER HANDLING.  
P270                      DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT.  
P273                      AVOID RELEASE TO THE ENVIRONMENT.  
P280                      WEAR PROTECTIVE GLOVES/ PROTECTIVE CLOTHING/ EYE PROTECTION/ FACE PROTECTION.  
P301 + P312 + P330                      IF SWALLOWED: CALL A POISON CENTER/DOCTOR IF YOU FEEL UNWELL. RINSE MOUTH.  
P305 + P351 + P338                      IF IN EYES: RINSE CAUTIOUSLY WITH WATER FOR SEVERAL MINUTES. REMOVE CONTACT LENSES, IF PRESENT AND EASY TO DO. CONTINUE RINSING.  
P337 + P313                      IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ ATTENTION.  
P370 + P378                      IN CASE OF FIRE: USE DRY SAND, DRY CHEMICAL OR ALCOHOL-RESISTANT FOAM FOR EXTINCTION.  
P501                      DISPOSE OF CONTENTS/ CONTAINER TO AN APPROVED WASTE DISPOSAL PLANT.

**HAZARDS NOT  
OTHERWISE  
CLASSIFIED (HNOC)  
OR NOT COVERED  
BY GHS**                      NONE

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**SECTION 3.    COMPOSITION/INFORMATION ON INGREDIENTS**

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MF:                                      CH<sub>6</sub>N<sub>4</sub>O<sub>3</sub>

MW: 122.08  
 CAS-NO. 506-93-4  
 PURITY:  $\geq$  98% (Assay by titration)

**HAZARDOUS COMPONENTS**

COMPONENT	CLASSIFICATION	CONCENTRATION
<b>Guanidine nitrate</b>		
	OX. SOL. 3; ACUTE TOX. 4; EYE IRRIT. 2A; AQUATIC ACUTE 3; AQUATIC CHRONIC 3; H272, H302, H319, H402, H412	$\leq$ 100 %

FOR THE FULL TEXT OF THE H-STATEMENTS MENTIONED IN THIS SECTION, SEE SECTION 16.

**SECTION 4. FIRST-AID MEASURES**

**DESCRIPTION OF FIRST AID MEASURES**

<b>GENERAL ADVICE</b>	CONSULT A PHYSICIAN. SHOW THIS SAFETY DATA SHEET TO THE DOCTOR IN ATTENDANCE.MOVE OUT OF DANGEROUS AREA.
<b>IF INHALED</b>	IF BREATHED IN, MOVE PERSON INTO FRESH AIR. IF NOT BREATHING, GIVE ARTIFICIAL RESPIRATION. CONSULT A PHYSICIAN.
<b>IN CASE OF SKIN CONTACT</b>	WASH OFF WITH SOAP AND PLENTY OF WATER. CONSULT A PHYSICIAN.
<b>IN CASE OF EYE CONTACT</b>	RINSE THOROUGHLY WITH PLENTY OF WATER FOR AT LEAST 15 MINUTES AND CONSULT A PHYSICIAN.
<b>IF SWALLOWED</b>	NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON. RINSE MOUTH WITH WATER. CONSULT A PHYSICIAN.
<b>MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED</b>	THE MOST IMPORTANT KNOWN SYMPTOMS AND EFFECTS ARE DESCRIBED IN THE LABELLING (SEE SECTION 2.2) AND/OR IN SECTION 11
<b>INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED</b>	NO DATA AVAILABLE

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## **SECTION 5. FIRE AND EXPLOSION DATA**

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### **EXTINGUISHING MEDIA**

**SUITABLE  
EXTINGUISHING MEDIA** DRY POWDER DRY SAND

**SPECIAL HAZARDS  
ARISING FROM THE  
SUBSTANCE OR MIXTURE** CARBON OXIDES, NITROGEN OXIDES (NOX)

**ADVICE FOR  
FIREFIGHTERS** WEAR SELF CONTAINED BREATHING APPARATUS FOR  
FIRE FIGHTING IF NECESSARY.

**FURTHER INFORMATION** USE WATER SPRAY TO COOL UNOPENED CONTAINERS.

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## **SECTION 6. ACCIDENTAL RELEASE MEASURES**

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**PERSONAL  
PRECAUTIONS,  
PROTECTIVE  
EQUIPMENT AND  
EMERGENCY  
PROCEDURES** USE PERSONAL PROTECTIVE EQUIPMENT. AVOID DUST  
FORMATION. AVOID BREATHING VAPOURS, MIST OR  
GAS. ENSURE ADEQUATE VENTILATION. EVACUATE  
PERSONNEL TO SAFE AREAS. AVOID BREATHING DUST.  
  
FOR PERSONAL PROTECTION SEE SECTION 8.

**ENVIRONMENTAL  
PRECAUTIONS** PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO  
DO SO. DO NOT LET PRODUCT ENTER DRAINS.  
DISCHARGE INTO THE ENVIRONMENT MUST BE  
AVOIDED.

**METHODS AND  
MATERIALS FOR  
CONTAINMENT AND  
CLEANING UP** SWEEP UP AND SHOVEL. CONTAIN SPILLAGE, AND  
THEN COLLECT WITH AN ELECTRICALLY PROTECTED  
VACUUM CLEANER OR BY WET-BRUSHING AND PLACE  
IN CONTAINER FOR DISPOSAL ACCORDING TO LOCAL  
REGULATIONS (SEE SECTION 13). KEEP IN SUITABLE,  
CLOSED CONTAINERS FOR DISPOSAL.

**REFERENCE TO OTHER  
SECTIONS** FOR DISPOSAL SEE SECTION 13.

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## **SECTION 7. HANDLING AND STORAGE**

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**PRECAUTIONS FOR SAFE  
HANDLING** AVOID CONTACT WITH SKIN AND EYES. AVOID  
FORMATION OF DUST AND AEROSOLS. FURTHER  
PROCESSING OF SOLID MATERIALS MAY RESULT IN

THE FORMATION OF COMBUSTIBLE DUSTS. THE POTENTIAL FOR COMBUSTIBLE DUST FORMATION SHOULD BE TAKEN INTO CONSIDERATION BEFORE ADDITIONAL PROCESSING OCCURS. PROVIDE APPROPRIATE EXHAUST VENTILATION AT PLACES WHERE DUST IS FORMED.KEEP AWAY FROM SOURCES OF IGNITION - NO SMOKING.KEEP AWAY FROM HEAT AND SOURCES OF IGNITION. FOR PRECAUTIONS SEE SECTION 2.2.

**CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES**

KEEP CONTAINER TIGHTLY CLOSED IN A DRY AND WELL-VENTILATED PLACE.

Store at RT

**SPECIFIC END USE(S)**

APART FROM THE USES MENTIONED IN SECTION 1.2 NO OTHER SPECIFIC USES ARE STIPULATED.

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**SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION**

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**CONTROL PARAMETERS**

**COMPONENTS WITH WORKPLACE CONTROL PARAMETERS**

CONTAIN NO SUBSTANCES WITH OCCUPATIONAL EXPOSURE LIMIT VALUES.

**EXPOSURE CONTROLS**

**APPROPRIATE ENGINEERING CONTROLS**

HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE. WASH HANDS BEFORE BREAKS AND AT THE END OF WORKDAY.

**PERSONAL PROTECTIVE EQUIPMENT**

**EYE/FACE PROTECTION**

SAFETY GLASSES WITH SIDE-SHIELDS CONFORMING TO EN166 USE EQUIPMENT FOR EYE PROTECTION TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR EN 166(EU).

**SKIN PROTECTION**

HANDLE WITH GLOVES. GLOVES MUST BE INSPECTED PRIOR TO USE. USE PROPER GLOVE REMOVAL TECHNIQUE (WITHOUT TOUCHING GLOVE'S OUTER SURFACE) TO AVOID SKIN CONTACT WITH THIS PRODUCT. DISPOSE OF CONTAMINATED GLOVES AFTER USE IN ACCORDANCE WITH APPLICABLE LAWS AND GOOD LABORATORY PRACTICES. WASH AND DRY HANDS.

## FULL CONTACT

MATERIAL: NITRILE RUBBER  
MINIMUM LAYER THICKNESS: 0.11 MM  
BREAK THROUGH TIME: 480 MIN  
MATERIAL TESTED:DERMATRIL (KCL 740, SIZE M)

## SPLASH CONTACT

MATERIAL: NITRILE RUBBER  
MINIMUM LAYER THICKNESS: 0.11 MM  
BREAK THROUGH TIME: 480 MIN  
MATERIAL TESTED:DERMATRIL (KCL 740, SIZE M)

IF USED IN SOLUTION, OR MIXED WITH OTHER SUBSTANCES, AND UNDER CONDITIONS WHICH DIFFER FROM EN 374, CONTACT THE SUPPLIER OF THE CE APPROVED GLOVES. THIS RECOMMENDATION IS ADVISORY ONLY AND MUST BE EVALUATED BY AN INDUSTRIAL HYGIENIST AND SAFETY OFFICER FAMILIAR WITH THE SPECIFIC SITUATION OF ANTICIPATED USE BY OUR CUSTOMERS. IT SHOULD NOT BE CONSTRUED AS OFFERING AN APPROVAL FOR ANY SPECIFIC USE SCENARIO.

**BODY PROTECTION**

COMPLETE SUIT PROTECTING AGAINST CHEMICALS, THE TYPE OF PROTECTIVE EQUIPMENT MUST BE SELECTED ACCORDING TO THE CONCENTRATION AND AMOUNT OF THE DANGEROUS SUBSTANCE AT THE SPECIFIC WORKPLACE.

**RESPIRATORY PROTECTION**

WHERE RISK ASSESSMENT SHOWS AIR-PURIFYING RESPIRATORS ARE APPROPRIATE USE A FULLFACE PARTICLE RESPIRATOR TYPE N100 (US) OR TYPE P3 (EN 143) RESPIRATOR CARTRIDGES AS A BACKUP TO ENGINEERING CONTROLS. IF THE RESPIRATOR IS THE SOLE MEANS OF PROTECTION, USE A FULL-FACE SUPPLIED AIR RESPIRATOR. USE RESPIRATORS AND COMPONENTS TESTED AND APPROVED UNDER APPROPRIATE GOVERNMENT STANDARDS SUCH AS NIOSH (US) OR CEN (EU).

**CONTROL OF ENVIRONMENTAL EXPOSURE**

PREVENT FURTHER LEAKAGE OR SPILLAGE IF SAFE TO DO SO. DO NOT LET PRODUCT ENTER DRAINS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

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**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES**

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**INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES**

APPEARANCE	White crystalline powder
ODOUR	NO DATA AVAILABLE
ODOUR THRESHOLD	NO DATA AVAILABLE
PH	NO DATA AVAILABLE
MELTING POINT/FREEZING POINT	212 - 216 °C
INITIAL BOILING POINT AND BOILING RANGE	
FLASH POINT	
EVAPORATION RATE	NO DATA AVAILABLE
FLAMMABILITY (SOLID, GAS)	NO DATA AVAILABLE
UPPER/LOWER FLAMMABILITY OR EXPLOSIVE LIMITS	NO DATA AVAILABLE
VAPOUR PRESSURE	NO DATA AVAILABLE
VAPOUR DENSITY	NO DATA AVAILABLE
RELATIVE DENSITY	1.44
WATER SOLUBILITY	NO DATA AVAILABLE
PARTITION COEFFICIENT: N- OCTANOL/WATER	NO DATA AVAILABLE
AUTO-IGNITION TEMPERATURE	NO DATA AVAILABLE
DECOMPOSITION TEMPERATURE	NO DATA AVAILABLE
VISCOSITY	NO DATA AVAILABLE
EXPLOSIVE PROPERTIES	NO DATA AVAILABLE
OXIDIZING PROPERTIES	THE SUBSTANCE OR MIXTURE IS CLASSIFIED AS OXIDIZING WITH THE CATEGORY 3.

**OTHER SAFETY INFORMATION**

NO DATA AVAILABLE

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**SECTION 10. STABILITY AND REACTIVITY**

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<b>REACTIVITY</b>	NO DATA AVAILABLE
<b>CHEMICAL STABILITY</b>	STABLE UNDER RECOMMENDED STORAGE CONDITIONS.
<b>POSSIBILITY OF HAZARDOUS REACTIONS</b>	NO DATA AVAILABLE
<b>CONDITIONS TO AVOID</b>	NO DATA AVAILABLE

**INCOMPATIBLE  
MATERIALS**

NO DATA AVAILABLE

**HAZARDOUS  
DECOMPOSITION  
PRODUCTS**

HAZARDOUS DECOMPOSITION PRODUCTS FORMED  
UNDER FIRE CONDITIONS. - CARBON OXIDES,  
NITROGEN OXIDES (NOX)  
OTHER DECOMPOSITION PRODUCTS - NO DATA  
AVAILABLE  
IN THE EVENT OF FIRE: SEE SECTION 5

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**SECTION 11. TOXICOLOGICAL INFORMATION**

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**INFORMATION ON TOXICOLOGICAL EFFECTS**

**ACUTE TOXICITY**

LD50 ORAL - RAT - FEMALE - 730 MG/KG  
(US-EPA)  
ABSORPTION

LC50 INHALATION - RAT - MALE AND FEMALE - 4 H - >  
0.853 MG/L  
(OECD TEST GUIDELINE 403)  
REMARKS: AN LC50/INHALATION/4H/RAT COULD NOT  
BE DETERMINED BECAUSE NO MORTALITY OF RATS  
WAS OBSERVED AT THE MAXIMUM ACHIEVABLE  
CONCENTRATION.

LD50 DERMAL - RABBIT - MALE AND FEMALE - > 2,000  
MG/KG  
(US-EPA)

NO DATA AVAILABLE

**SKIN  
CORROSION/IRRITATION**

SKIN - RABBIT  
RESULT: NO SKIN IRRITATION - 4 H  
(OECD TEST GUIDELINE 404)

**SERIOUS EYE  
DAMAGE/EYE IRRITATION**

EYES - RABBIT  
RESULT: EYE IRRITATION  
(US-EPA)

**RESPIRATORY OR SKIN  
SENSITISATION**

BUEHLER TEST - GUINEA PIG  
RESULT: NEGATIVE  
(OECD TEST GUIDELINE 406)

**GERM CELL  
MUTAGENICITY**

AMES TEST  
SALMONELLA TYPHIMURIUM  
RESULT: NEGATIVE  
IN VITRO MAMMALIAN CELL GENE MUTATION TEST  
MOUSE LYMPHOMA TEST  
RESULT: NEGATIVE



**CARCINOGENICITY**

IARC: NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS PROBABLE, POSSIBLE OR CONFIRMED HUMAN CARCINOGEN BY IARC.

NTP: NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS IDENTIFIED AS A KNOWN OR ANTICIPATED CARCINOGEN BY NTP.

OSHA: NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN OR EQUAL TO 0.1% IS ON OSHA S LIST OF REGULATED CARCINOGENS.

**REPRODUCTIVE TOXICITY** NO DATA AVAILABLE

**SPECIFIC TARGET ORGAN TOXICITY - SINGLE EXPOSURE** ACUTE INHALATION TOXICITY - POSSIBLE DAMAGES:, MUCOSAL IRRITATIONS

**SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE** NO DATA AVAILABLE

**ASPIRATION HAZARD** NO DATA AVAILABLE

**ADDITIONAL INFORMATION** RTECS: NOT AVAILABLE

TO THE BEST OF OUR KNOWLEDGE, THE CHEMICAL, PHYSICAL, AND TOXICOLOGICAL PROPERTIES HAVE NOT BEEN THOROUGHLY INVESTIGATED.

THE FOLLOWING APPLIES TO NITRITES/NITRATES IN GENERAL: METHAEMOGLOBINAEMIA AFTER THE UPTAKE OF LARGE QUANTITIES.

FURTHER DATA:

OTHER DANGEROUS PROPERTIES CAN NOT BE EXCLUDED.

HANDLE IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICE.

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**SECTION 12. ECOLOGICAL INFORMATION**

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**TOXICITY**

TOXICITY TO FISH LC50 - PIMEPHALES PROMELAS (FATHEAD MINNOW) - 690 MG/L - 96 H

REMARKS: (IUCLID)

TOXICITY TO DAPHNIA AND OTHER AQUATIC INVERTEBRATES STATIC TEST EC50 - DAPHNIA MAGNA (WATER FLEA) - 70.2 MG/L - 48 H (OECD TEST GUIDELINE 202)

TOXICITY TO ALGAE	STATIC TEST EC50 - PSEUDOKIRCHNERIELLA SUBCAPITATA (GREEN ALGAE) - 11.8 MG/L - 72 H (DIRECTIVE 67/548/EEC, ANNEX V, C.3.)
TOXICITY TO BACTERIA	STATIC TEST EC10 - PSEUDOMONAS PUTIDA - 832 MG/L - 18 H (DIN 38421 TEIL 8)
<b>PERSISTENCE AND DEGRADABILITY</b>	NO DATA AVAILABLE
<b>BIOACCUMULATIVE POTENTIAL</b>	NO DATA AVAILABLE
<b>MOBILITY IN SOIL</b>	NO DATA AVAILABLE
<b>RESULTS OF PBT AND VPVB ASSESSMENT</b>	PBT/VPVB ASSESSMENT NOT AVAILABLE AS CHEMICAL SAFETY ASSESSMENT NOT REQUIRED/NOT CONDUCTED.
<b>OTHER ADVERSE EFFECTS</b>	AN ENVIRONMENTAL HAZARD CANNOT BE EXCLUDED IN THE EVENT OF UNPROFESSIONAL HANDLING OR DISPOSAL. HARMFUL TO AQUATIC LIFE WITH LONG LASTING EFFECTS. DISCHARGE INTO THE ENVIRONMENT MUST BE AVOIDED.

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### SECTION 13. DISPOSAL CONSIDERATIONS

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#### WASTE TREATMENT METHODS

<b>PRODUCT</b>	OFFER SURPLUS AND NON-RECYCLABLE SOLUTIONS TO A LICENSED DISPOSAL COMPANY. BURN IN A CHEMICAL INCINERATOR EQUIPPED WITH AN AFTERBURNER AND SCRUBBER BUT EXERT EXTRA CARE IN IGNITING AS THIS MATERIAL IS HIGHLY FLAMMABLE. CONTACT A LICENSED PROFESSIONAL WASTE DISPOSAL SERVICE TO DISPOSE OF THIS MATERIAL.
<b>CONTAMINATED PACKAGING</b>	DISPOSE OF AS UNUSED PRODUCT.

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### SECTION 14. TRANSPORT INFORMATION

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<b>DOT (US)</b>	
PROPER SHIPPING NAME:	GUANIDINE NITRATE
UN NUMBER:	1467

CLASS: 5.1  
PACKING GROUP: III  
REPORTABLE QUANTITY  
(RQ):  
POISON INHALATION HAZARD: NO

**IMDG**

PROPER SHIPPING NAME: GUANIDINE NITRATE  
UN NUMBER: 1467  
CLASS: 5.1  
PACKING GROUP: III  
EMS-NO: F-A, S-Q

**IATA**

PROPER SHIPPING NAME: GUANIDINE NITRATE  
UN NUMBER: 1467  
CLASS: 5.1  
PACKING GROUP: III

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**SECTION 15. REGULATORY INFORMATION**

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**SARA 302 COMPONENTS** THIS MATERIAL DOES NOT CONTAIN ANY COMPONENTS WITH A SECTION 302 EHS TPQ.

**SARA 313 COMPONENTS** THIS MATERIAL DOES NOT CONTAIN ANY CHEMICAL COMPONENTS WITH KNOWN CAS NUMBERS THAT EXCEED THE THRESHOLD (DE MINIMIS) REPORTING LEVELS ESTABLISHED BY SARA TITLE III, SECTION 313.

**SARA 311/312 HAZARDS** REACTIVITY HAZARD, ACUTE HEALTH HAZARD

**MASSACHUSETTS RIGHT TO KNOW COMPONENTS** NO COMPONENTS ARE SUBJECT TO THE MASSACHUSETTS RIGHT TO KNOW ACT.

**PENNSYLVANIA RIGHT TO KNOW COMPONENTS**

	CAS-NO.	REVISION DATE
Guanidine nitrate	506-93-4	03-01-2007

**NEW JERSEY RIGHT TO KNOW COMPONENTS**

	CAS-NO.	REVISION DATE
Guanidine nitrate	506-93-4	03-01-2007

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**SECTION 16. OTHER INFORMATION**

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**FULL TEXT OF H-STATEMENTS REFERRED TO UNDER SECTIONS 2 AND 3.**

H272 MAY INTENSIFY FIRE; OXIDIZER.  
H302 HARMFUL IF SWALLOWED.

H319 CAUSES SERIOUS EYE IRRITATION.  
H412 HARMFUL TO AQUATIC LIFE WITH LONG LASTING EFFECTS.

MSDS LEGEND

MW: MOLECULAR WEIGHT  
MF: MOLECULAR FORMULA  
VOC: VOLATILE ORGANIC COMPOUNDS  
ACGIH: AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGINISTS  
CAS: CHEMICAL ABSTRACTS SERIVE REGISTRY NUMBER  
OSHA: OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION  
PEL: PERMISSIBLE EXPOSURE LIMIT (OSHA)  
TLV: THRESHOLD LIMIT VALUE (ACGIH)

IMPORTANT:

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