

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/01/2009

Reviewed on 02/16/2006

1 Identification of substance:

Product details:

Product name: Thulium nitrate

Stock number: 11203

Manufacturer/Supplier:

Alfa Aesar, A Johnson Matthey Company
Johnson Matthey Catalog Company, Inc.
30 Bond Street
Ward Hill, MA 01835-8099
Emergency Phone: (978) 521-6300
CHEMTREC: (800) 424-9300
Web Site: www.alfa.com

Information Department: Health, Safety and Environmental Department

Emergency information:

During normal hours the Health, Safety and Environmental Department. After normal hours call Chemtrec at (800) 424-9300.

2 Composition/Data on components:

Chemical characterization:

Description: (CAS#)

Thulium nitrate hydrate (CAS# 36548-87-5), 100%

Identification number(s):

EINECS Number: 239-069-9

3 Hazards identification

Hazard description:



Xi Irritant
O Oxidizing

Information pertaining to particular dangers for man and environment

R 8 Contact with combustible material may cause fire.

R 36/37/38 Irritating to eyes, respiratory system and skin.

Classification system

HMIS ratings (scale 0-4)

(Hazardous Materials Identification System)

HEALTH	1
FIRE	0
REACTIVITY	2

Health (acute effects) = 1
Flammability = 0
Reactivity = 2

GHS label elements



Danger

2.14/2 - May intensify fire; oxidizer.



Warning

3.2/2 - Causes skin irritation.

3.3/2A - Causes serious eye irritation.

3.8/3 - May cause respiratory irritation.

Prevention:

Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

Keep/Store away from clothing/combustible materials.

Take any precaution to avoid mixing with combustibles.

Avoid breathing dust/fume/gas/mist/vapours/spray.

Wash thoroughly after handling.

Use only outdoors or in a well-ventilated area.

Wear protective gloves/protective clothing/eye protection/face protection.

Response:

IF ON SKIN: Wash with plenty of soap and water.

IF INHALED: Remove to fresh air and keep at rest in a position 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 CENTER or doctor/physician if you feel unwell.

(Contd. on page 2)

- USA -

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/01/2009

Reviewed on 02/16/2006

Product name: Thulium nitrate

(Contd. of page 1)

Specific treatment (see label).

If skin irritation occurs: Get medical advice/attention.

If eye irritation persists: Get medical advice/attention.

Take off contaminated clothing and wash before reuse.

In case of fire: Use for extinction: CO₂, powder or water spray.**Storage:**

Store in a well-ventilated place. Keep container tightly closed.

Store locked up.

Disposal:

Dispose of contents/container in accordance with local/regional/national/international regulations.

4 First aid measures**After inhalation**

Supply fresh air. If required, provide artificial respiration. Keep patient warm.

Seek immediate medical advice.

After skin contact

Immediately wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

After eye contact

Rinse opened eye for several minutes under running water. Then consult a doctor.

After swallowing Seek immediate medical advice.**Information for doctor****The following symptoms may occur:**

Nausea

Headache

Cramp

Dizziness

5 Fire fighting measures**Suitable extinguishing agents**

Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

Special hazards caused by the material, its products of combustion or resulting gases:

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Promotes fire

In case of fire, the following can be released:

Nitrogen oxides (NO_x)**Protective equipment:**

Wear self-contained respirator.

Wear fully protective impervious suit.

6 Accidental release measures**Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Measures for environmental protection:

Do not allow material to be released to the environment without proper governmental permits.

Measures for cleaning/collecting: Ensure adequate ventilation.**Additional information:**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

7 Handling and storage**Handling****Information for safe handling:**

Handle under dry argon.

Keep container tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation at the workplace.

Information about protection against explosions and fires:

Substance/product can reduce the ignition temperature of flammable substances.

This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

(Contd. on page 3)

-USA-

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/01/2009

Reviewed on 02/16/2006

Product name: Thulium nitrate

(Contd. of page 2)

Storage**Requirements to be met by storerooms and receptacles:** No special requirements.**Information about storage in one common storage facility:**

Store away from flammable substances.

Store away from reducing agents.

Do not store together with acids.

Store away from water/moisture.

Further information about storage conditions:

This product is hygroscopic.

Store under dry argon.

Protect from humidity and water.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protection**Additional information about design of technical systems:**

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Components with limit values that require monitoring at the workplace: Not required.**Additional information:** No data**Personal protective equipment****General protective and hygienic measures**

The usual precautionary measures for handling chemicals should be followed.

Keep away from foodstuffs, beverages and feed.

Remove all soiled and contaminated clothing immediately.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

Breathing equipment: Use suitable respirator when high concentrations are present.**Protection of hands:** Impervious gloves**Eye protection:** Safety glasses**Body protection:** Protective work clothing.**9 Physical and chemical properties:****General Information**

Form:	Crystalline aggregates
Color:	Off-white
	Light green
Odor:	Odorless

Change in condition**Melting point/Melting range:** Not determined**Boiling point/Boiling range:** Not determined**Sublimation temperature / start:** Not determined**Flash point:** Not applicable**Flammability (solid, gaseous)** Contact with combustible material may cause fire.**Ignition temperature:** Not determined**Decomposition temperature:** Not determined**Explosion limits:****Lower:** Not determined**Upper:** Not determined**Vapor pressure:** Not determined**Density:** Not determined**Solubility in / Miscibility with****Water:** Soluble**10 Stability and reactivity****Thermal decomposition / conditions to be avoided:**

Decomposition will not occur if used and stored according to specifications.

Materials to be avoided:

Reducing agents, easily oxidized materials

Acids

Water/moisture

(Contd. on page 4)

USA

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/01/2009

Reviewed on 02/16/2006

Product name: Thulium nitrate

(Contd. of page 3)

Organic materials

Dangerous reactions

Reacts with reducing agents

Reacts with flammable substances

Dangerous products of decomposition:

Nitrogen oxides

Metal oxide fume

11 Toxicological information**Acute toxicity:****Primary irritant effect:****on the skin:** Irritant to skin and mucous membranes.**on the eye:** Irritating effect.**Sensitization:** No sensitizing effects known.**Subacute to chronic toxicity:**

Small doses of nitrates may cause weakness, general depression, headache and mental impairment. Larger doses may cause dizziness, abdominal cramps, vomiting, bloody diarrhea, convulsions and collapse.

Lanthanons can cause delayed blood clotting leading to hemorrhages. Exposure may also lead to sensitivity to heat, itching, increased awareness of odor and taste, and liver damage.

Additional toxicological information:

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:**General notes:**

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations**Product:****Recommendation** Consult state, local or national regulations to ensure proper disposal.**Uncleaned packagings:****Recommendation:** Disposal must be made according to official regulations.**Recommended cleansing agent:** Water, if necessary with cleansing agents.**14 Transport information****DOT regulations:****Hazard class:**

5.1

Identification number:

UN1477

Packing group:

III

Proper shipping name (technical name): NITRATES, INORGANIC, N.O.S.**Label**

5.1

Land transport ADR/RID (cross-border)**ADR/RID class:**

5.1 (02) Oxidizing substances

Danger code (Kemler):

50

UN-Number:

1477

Packaging group:

III

(Contd. on page 5)

USA

Material Safety Data Sheet

acc. to OSHA and ANSI

Printing date 05/01/2009

Reviewed on 02/16/2006

Product name: Thulium nitrate

(Contd. of page 4)

Description of goods: 1477 NITRATES, INORGANIC, N.O.S. (Thulium nitrate)

Maritime transport IMDG:

IMDG Class: 5.1
 UN Number: 1477
 Label: 5.1
 Packaging group: III
 Proper shipping name: NITRATES, INORGANIC, N.O.S.

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class: 5.1
 UN/ID Number: 1477
 Label: 5.1
 Packaging group: III
 Proper shipping name: NITRATES, INORGANIC, N.O.S.

UN "Model Regulation": UN1477, NITRATES, INORGANIC, N.O.S., 5.1, III

15 Regulations**Product related hazard informations:****Hazard symbols:**

Xi Irritant
 O Oxidizing

Risk phrases:

8 Contact with combustible material may cause fire.
 36/37/38 Irritating to eyes, respiratory system and skin.

Safety phrases:

17 Keep away from combustible material.
 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
 37 Wear suitable gloves.

National regulations

All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

Information about limitation of use: For use only by technically qualified individuals.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing MSDS: Health, Safety and Environmental Department.

Contact: Zachariah Holt

Abbreviations and acronyms:

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
 IMDG: International Maritime Code for Dangerous Goods
 DOT: US Department of Transportation
 IATA: International Air Transport Association
 IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
 ICAO: International Civil Aviation Organization
 ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
 GHS: Globally Harmonized System of Classification and Labelling of Chemicals
 EINECS: European Inventory of Existing Commercial Chemical Substances
 CAS: Chemical Abstracts Service (division of the American Chemical Society)
 HMIS: Hazardous Materials Identification System (USA)

USA