

SAFETY DATA SHEET

THIRAM 480DP

Version 1.8 Revision Date: 10/26/2015 MSDS Number: 400000004136 Country: US
Language: Z8

SECTION 1. IDENTIFICATION

Product name : THIRAM 480DP

Product code : 400000004136

Manufacturer or supplier's details

Company: MacDermid Agricultural Solutions, Inc
245 Freight St
Waterbury, CT
United States of America
06702
Telephone : +1 800 423 8569

Prepared by sds.request@arysta.com

Further information for the material safety data sheet :
sds.request@arysta.com

1.4 Emergency telephone

Emergency telephone: Agriphar Crop Solutions: +1 800 423 8569(24 hours) 800-424-9300
For additional emergency telephone numbers see section 16 of the
Safety Data Sheet.

Recommended use of the chemical and restrictions on use

Recommended use : Seed treatment
Fungicide

Restrictions on use : Agriculture, For professional users only.

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Inhalation) : Category 4

Skin irritation : Category 2

Eye irritation : Category 2A

Skin sensitization : Category 1

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Specific target organ systemic toxicity - repeated exposure : Category 2

Acute aquatic toxicity : Category 1

Chronic aquatic toxicity : Category 1

GHS Label element

Hazard pictograms :



Signal Word : Warning

Hazard Statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H373 May cause damage to organs through prolonged or repeated exposure.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements : **Prevention:**
P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
P264 Wash skin thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ eye protection/ face protection.
Response:
P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
P304 + P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P314 Get medical advice/ attention if you feel unwell.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 Take off contaminated clothing and wash before reuse.
P391 Collect spillage.
Disposal:
P501 Dispose of contents/ container to an approved waste disposal plant.

Other hazards

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None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture
Chemical nature : Thiram - 4.0 lb/gal
Thiram - 480 gm/L

Hazardous ingredients

| Chemical Name | CAS-No. | Concentration (% w/w) |
|--|------------|-----------------------|
| thiram | 137-26-8 | >= 30 - < 50 |
| propane-1,2-diol | 57-55-6 | >= 10 - < 20 |
| urea | 57-13-6 | >= 1 - < 5 |
| quartz (SiO ₂) (Fr = 100%) | 14808-60-7 | >= 0.1 - < 1 |

SECTION 4. FIRST AID MEASURES

If inhaled : Remove to fresh air.
Obtain medical attention.

In case of skin contact : Remove contaminated clothing and shoes.
Wash off with warm water and soap.
If symptoms persist, call a physician.

In case of eye contact : In case of contact, immediately flush eyes with plenty of water
for at least 15 minutes.
If symptoms persist, call a physician.

If swallowed : Do NOT induce vomiting.
Rinse mouth with water.
Obtain medical attention.

Most important symptoms and effects, both acute and delayed : Eye irritation
Skin irritation
Allergic reactions
Symptoms may be delayed.
May cause an allergic skin reaction.
Causes serious eye irritation.
Harmful if inhaled.

Notes to physician : The first aid procedure should be established in consultation
with the doctor responsible for industrial medicine.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media : Extinguishing media - large fires
Alcohol-resistant foam
(on small fires)

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Carbon dioxide (CO2)
Dry chemical
Water spray

Unsuitable extinguishing media : Water spray jet

Specific extinguishing methods : Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Further information : Do not discharge extinguishing waters into streams, rivers and lakes.

Special protective equipment for fire-fighters : Body covering protective clothing, full "turn-out" gear.
Self-contained breathing apparatus (EN 133)

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Wear suitable protective equipment.
Avoid contact with skin and eyes.

Environmental precautions : Prevent leaks and prevent soil / water pollution caused by leaks.

Methods and materials for containment and cleaning up : Absorb on inert material such as sand, earth, vermiculite.
Collect for disposal.
Dam up.
Large spills should be collected mechanically (remove by pumping) for disposal.
Pump excess material into suitable container (metal drums, metal tank, or such).

In accordance with local and national regulations.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Do not eat, drink or smoke when using this product.
Avoid contact with skin, eyes and clothing.
Avoid inhalation of vapor or mist.
Use with adequate ventilation.
Wash thoroughly after handling.

Conditions for safe storage : Protect from freezing. Store above 0° C (32°F).
Keep at temperatures below 50 °C.

Keep in a dry, cool place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

| Ingredients | CAS-No. | Value type | Control parameters | Basis |
|-------------|---------|------------|--------------------|-------|
|-------------|---------|------------|--------------------|-------|

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| | | (Form of exposure) | / Permissible concentration | |
|--|------------|------------------------------------|----------------------------------|-----------|
| thiram | 137-26-8 | TWA (Inhalable fraction and vapor) | 0.05 mg/m3 | ACGIH |
| | | TWA | 5 mg/m3 | OSHA Z-1 |
| | | TWA | 5 mg/m3 | OSHA P0 |
| | | TWA | 5 mg/m3 | NIOSH REL |
| propane-1,2-diol | 57-55-6 | TWA | 10 mg/m3 | US WEEL |
| urea | 57-13-6 | TWA | 10 mg/m3 | US WEEL |
| quartz (SiO ₂) (Fr = 100%) | 14808-60-7 | TWA (Respirable fraction) | 0.025 mg/m3 | ACGIH |
| | | TWA (total dust) | 30 mg/m3 / %SiO ₂ +2 | OSHA Z-3 |
| | | TWA (respirable) | 250 mppcf / %SiO ₂ +5 | OSHA Z-3 |
| | | TWA (respirable) | 10 mg/m3 / %SiO ₂ +2 | OSHA Z-3 |
| | | TWA (Respirable fraction) | 0.1 mg/m3 | OSHA P0 |
| | | TWA (respirable dust fraction) | 0.1 mg/m3 | OSHA P0 |
| | | TWA (Respirable fraction) | 0.025 mg/m3 (Silica) | ACGIH |
| | | TWA (Respirable dust) | 0.05 mg/m3 (Silica) | NIOSH REL |

Personal protective equipment

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection

Remarks : Impervious gloves

Eye protection : Safety glasses with side-shields

Skin and body protection : impervious clothing

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Color : light cream

Odor : No data available

Odor Threshold : No data available

pH : 6.5 - 7.5

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Solidification point : -9 - -7 °C
: No data available

Flash point : does not flash

Evaporation rate : No data available

Upper explosion limit : No data available

Lower explosion limit : No data available

Vapor pressure : No data available

Relative vapor density : No data available

Relative density : No data available

Density : ca. 1.143 g/cm³

Solubility(ies)
Water solubility : dispersible

Solubility in other solvents : No data available

Partition coefficient: n-octanol/water : No data available

Autoignition temperature : No data available

Decomposition temperature : No data available

Viscosity
Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Self-Accelerating decomposition temperature (SADT) : Method: No information available.

SECTION 10. STABILITY AND REACTIVITY

Possibility of hazardous reactions : Stable under recommended storage conditions.

Incompatible materials : Strong acids
Strong bases

Hazardous decomposition products : Burning produces obnoxious and toxic fumes.

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SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Product:

Acute oral toxicity : LD50 (Rat, female): 2,950 mg/kg
LD50 (Rat, male): 4,430 mg/kg

Acute inhalation toxicity : LC50 (Rat): > 2.6 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rat): > 4,000 mg/kg

Ingredients:

thiram:

Acute oral toxicity : LD50 (Rat, female): 1,800 mg/kg

Acute inhalation toxicity : LC50 (Rat, female): 3.46 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg

propane-1,2-diol:

Acute oral toxicity : LD50 (Rat): 20,000 mg/kg
LD50 (Rabbit): 18,500 mg/kg

Acute dermal toxicity : LD50 (Rabbit): 20,800 mg/kg

urea:

Acute oral toxicity : LD50 Oral (Rat): > 5,000 mg/kg

Acute dermal toxicity : LD50 (Rat): > 5,000 mg/kg

Skin corrosion/irritation

Product:

Species: Rabbit
Result: slight irritation

Ingredients:

thiram:

Species: Rabbit
Result: No skin irritation

urea:

Species: Rabbit
Exposure time: 24 h

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Result: No skin irritation

Serious eye damage/eye irritation

Product:

Species: Rabbit
Result: Moderate eye irritation

Ingredients:

thiram:

Species: Rabbit
Result: Irritating to eyes.
Assessment: Irritating to eyes.

urea:

Species: Rabbit
Result: No eye irritation
Method: OECD Test Guideline 405
GLP: yes

Respiratory or skin sensitization

Product:

Species: Guinea pig
Result: May cause sensitization by skin contact.

Ingredients:

thiram:

Species: Guinea pig
Assessment: May cause sensitization by skin contact.
Result: Causes sensitization.

urea:

Species: Guinea pig
Assessment: Did not cause sensitization on laboratory animals.

Germ cell mutagenicity

Ingredients:

thiram:

Genotoxicity in vitro

- : Species: Salmonella typhimurium
Method: Mutagenicity (Salmonella typhimurium - reverse mutation assay)
Result: positive
- : Species: Chinese hamster ovary cells
Result: negative
- : Species: Chinese hamster ovary cells
Method: In Vitro mammalian Cell Gene Mutation Test
Result: negative

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Genotoxicity in vivo : Test Type: Mammalian bone marrow chromosome aberration test
Species: Mouse
Result: negative

Germ cell mutagenicity - Assessment : negative

urea:

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

quartz (SiO₂) (Fr = 100%):

Genotoxicity in vitro : Test Type: Ames test
Metabolic activation: with and without metabolic activation
Result: negative

Genotoxicity in vivo : Test Type: in vivo assay
Result: negative

Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects.

Carcinogenicity

Product:

Carcinogenicity - Assessment : Weight of evidence does not support classification as a carcinogen

Ingredients:

thiram:

Species: Rat

Application Route: Oral

NOAEL: NOAEL (No observed adverse effect level): 1.5 mg/kg bw/day

Carcinogenicity - Assessment : negative

urea:

Carcinogenicity - Assessment : Animal testing did not show any carcinogenic effects.

quartz (SiO₂) (Fr = 100%):

Carcinogenicity - Assessment : Human carcinogen.

IARC

No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Group 1: Carcinogenic to humans

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quartz (SiO₂) (Fr = 100%) 14808-60-7

OSHA

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

NTP

No ingredient of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Known to be human carcinogen

quartz (SiO₂) (Fr = 100%) 14808-60-7

Reproductive toxicity

Ingredients:

thiram:

Effects on fertility

: Species: Rat
General Toxicity Parent: NOAEL (No observed adverse effect level): 2.3 mg/kg bw/day
General Toxicity F1: No observed adverse effect level F1: 9 mg/kg bw/day
Early Embryonic Development: No observed adverse effect level F2: 3 mg/kg bw/day

Effects on fetal development

: Species: Rabbit
General Toxicity Maternal: NOAEL (No observed adverse effect level): 10 mg/kg bw/day
Teratogenicity: NOAEL (No observed adverse effect level): 10 mg/kg bw/day

Species: Rat
Teratogenicity: NOAEL (No observed adverse effect level): 7.5 mg/kg bw/day

Reproductive toxicity - Assessment

: negative
negative

urea:

Reproductive toxicity - Assessment

: No toxicity to reproduction
No effects on or via lactation

STOT-single exposure

Product:

Remarks: No data available

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STOT-repeated exposure

Ingredients:

urea:

Routes of exposure: Oral

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

quartz (SiO₂) (Fr = 100%):

Routes of exposure: Inhalation

Assessment: The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Repeated dose toxicity

Ingredients:

thiram:

Species: Rat

NOAEL: 2.5 mg/kg

Application Route: Oral

Exposure time: 90 d

Target Organs: Stomach

Species: Rabbit

NOAEL: 300 mg/kg

Application Route: Dermal

Exposure time: 21 d

Species: Dog

NOAEL: 2 mg/kg

Application Route: Oral

Exposure time: 90 d

Target Organs: Liver

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Ingredients:

thiram:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 0.046 mg/l
Exposure time: 96 h
Test Type: static test

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): 0.011 mg/l
Exposure time: 48 h
Test Type: static test

Toxicity to algae : EC50 (Pseudokirchneriella subcapitata (green algae)): 0.065 mg/l
Exposure time: 120 h
Test Type: static test

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Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) : (Daphnia magna (Water flea)): 0.008 mg/l
Exposure time: 21 d

urea:

Toxicity to fish : LC50 (Leuciscus idus (Golden orfe)): > 5,000 mg/l
Exposure time: 96 h
Test Type: static test
GLP: no

Toxicity to algae : EC50 (Scenedesmus quadricauda (Green algae)): > 10,000 mg/l
Exposure time: 72 h
Test Type: Growth inhibition

Persistence and degradability

Ingredients:

thiram:

Biodegradability : Result: Not readily biodegradable.

urea:

Biodegradability : aerobic
Inoculum: activated sludge
Result: Readily biodegradable.
Biodegradation: 93 - 98 %
Exposure time: 24 h
Remarks: Ultimate aerobic biodegradation

Bioaccumulative potential

Ingredients:

thiram:

Partition coefficient: n-octanol/water : log Pow: 2.1

urea:

Bioaccumulation : Species: Cyprinus carpio (Carp)
Bioconcentration factor (BCF): 1
Exposure time: 3 d

Partition coefficient: n-octanol/water : log Pow: -1.59 (25 °C)
Method: OECD Test Guideline 107

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential : Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I

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Substances

Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information : Toxic to aquatic organisms.
The following information is applicable to a component of this material:

Ingredients:

thiram:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

urea:

Results of PBT and vPvB assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : In accordance with local and national regulations.

SECTION 14. TRANSPORT INFORMATION

International Regulation

UNRTDG

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (thiram)
Class : 9
Packing group : III
Labels : 9

IATA-DGR

UN/ID No. : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (thiram)
Class : 9
Packing group : III
Labels : Miscellaneous
Packing instruction (cargo aircraft) : 964
Packing instruction (passenger aircraft) : 964

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IMDG-Code

UN number : UN 3082
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (thiram)
Class : 9
Packing group : III
Labels : 9
EmS Code : F-A, S-F
Marine pollutant : yes

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

Not applicable for product as supplied.

Domestic regulation

49 CFR / TDG

< 2.5 Gal. (9.5 Liters) : Not Regulated
≥ 2.5 Gal. (9.5 Liters) but ≤ 119 Gal. (450 Liters) : RQ, UN3082, Environmentally Hazardous Substances, Liquid, N.O.S. (thiram), 9, III
> 119 Gal. (450 Liters) : RQ, UN3082, Environmentally Hazardous Substances, Liquid, N.O.S. (thiram), 9, III, Marine Pollutant

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

| Ingredients | CAS-No. | Component RQ (lbs) | Component RQ (lbs) |
|-------------|----------|--------------------|--------------------|
| Thiram | 137-26-8 | 10 | 24 |

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

SARA 311/312 Hazards : Acute Health Hazard

SARA 302 : No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

| | | |
|--------|----------|-----------|
| thiram | 137-26-8 | 41.7872 % |
|--------|----------|-----------|

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Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 12 (40 CFR 61).

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCM Intermediate or Final VOC's (40 CFR 60.489):

| | | |
|------------------|---------|------|
| propane-1,2-diol | 57-55-6 | 10 % |
| urea | 57-13-6 | 1 % |

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

| | | |
|--------------------------------------|-----------|-------|
| disodium hydrogenor- thophosphate | 7558-79-4 | 0.1 % |
| naphthalene | 91-20-3 | 0 % |

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

| | | |
|--------------------------------------|-----------|-------|
| disodium hydrogenor- thophosphate | 7558-79-4 | 0.1 % |
| naphthalene | 91-20-3 | 0 % |

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307

California Prop. 65

WARNING! This product contains a chemical known in the State of California to cause cancer.

| | |
|--|------------|
| quartz (SiO ₂) (Fr = 100%) | 14808-60-7 |
| naphthalene | 91-20-3 |

TSCA list

No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

FIFRA Hazard Information:

This chemical is a pesticide product registered by the United States Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets (SDS), and for workplace labels of non-pesticide chemicals. The pesticide label also includes other important information, including directions for use.

The hazard information required on the pesticide label is reproduced below.

CAUTION

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| | | | |
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Harmful if swallowed. Harmful if absorbed through skin. Harmful if inhaled. Avoid contact with eyes, skin or clothing. Avoid breathing spray mist or vapor. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

Consumption of alcoholic beverages increases the toxic effects of thiram.

This pesticide product is toxic to fish, aquatic invertebrates, oysters and shrimp. Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when cleaning equipment or disposing of equipment washwaters or rinsate.

Do not use or store near heat or open flame.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

(Q)SAR - (Quantitative) Structure Activity Relationship; ASTM - American Society for the Testing of Materials; bw - Body weight; DIN - Standard of the German Institute for Standardisation; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISO - International Organisation for Standardization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; UN - United Nations; vPvB - Very Persistent and Very Bioaccumulative; DSL - Domestic Substances List (Canada); KECL - Korea Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); AICS - Australian Inventory of Chemical Substances; IECSC - Inventory of Existing Chemical Substances in China; ENCS - Existing and New Chemical Substances (Japan); ISHL - Industrial Safety and Health Law (Japan); PICCS - Philippines Inventory of Chemicals and Chemical Substances; NZIoC - New Zealand Inventory of Chemicals; TCSI - Taiwan Chemical Substance Inventory; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; DOT - Department of Transportation; EHS - Extremely Hazardous Substance; HMIS - Hazardous Materials Identification System; MSHA - Mine Safety and Health Administration; NFPA - National Fire Protection Association; RCRA - Resource Conservation and Recovery Act; RQ - Reportable Quantity; SARA - Superfund Amendments and Reauthorization Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; GLP - Good Laboratory Practice; ERG - Emergency Response Guide; NTP - National Toxicology Program; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods

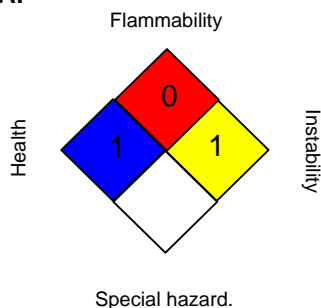
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Further information

NFPA:



HMIS III:

| | |
|-----------------|-----------|
| HEALTH | 2* |
| FLAMMABILITY | 1 |
| PHYSICAL HAZARD | 1 |

0 = not significant, 1 =Slight,
 2 = Moderate, 3 = High
 4 = Extreme, * = Chronic

Revision Date : 10/26/2015

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

US / Z8

Carechem24 International Worldwide Coverage

Emergency Phone Number

| | | |
|----------------------|--|-------------------------------------|
| <u>Europe:</u> | All European Countries | +44 (0) 1235 239 670 |
| <u>Asia Pacific:</u> | East / South East Asia – Regional Number | +65 3158 1074 |
| | Australia | +61 2801 44558 |
| | New Zealand | +64 9929 1483 |
| | China | +86 532 8388 9090 |
| | China Taiwan | +86 10 5100 3039 |
| | Japan | +81 345 789 341 |
| | Indonesia | 00780 3011 0293 |
| | Malaysia | +60 3 6207 4347 |
| | Thailand | 001800 1 2066 6751 |
| | Korea | +65 3158 1285 +82 (0)234 798 401 |
| | Vietnam | +65 3158 1255 |
| | India | +65 3158 1198 0800 100 7479 |

SAFETY DATA SHEET

THIRAM 480DP

Version
1.8

Revision Date:
10/26/2015

MSDS Number:
400000004136

Country: US
Language: Z8

| | | |
|------------------------------|-------------------------------------|-----------------------------------|
| | Pakistan | +65 3158 1329 |
| | Philippines | +65 31581203 |
| | Sri Lanka | +65 3158 1195 |
| | Emergency Phone Number | +65 3158 1200 |
| <u>Middle East / Africa:</u> | Arabic speaking countries | +44 (0) 1235 239 671 |
| | South Africa | +27 21 300 2732 |
| | All other countries | +44 (0) 1235 239 670 |
| <u>America</u> | United States of America and Canada | +1866 928 0789 +1 215 207 0061 |
| <u>Latin America:</u> | Brazil | +55 11 3197 5891 |
| | Mexico | +52 555 004 8763 |
| | Chile | +56 225 829 336 |
| | All other countries | +44 (0) 1235 239 670 |