

SAFETY DATA SHEET



42-S THIRAM FUNGICIDE

Version 3.0 / USA
102000026992

1/12
Revision Date: 07/06/2022
Print Date: 07/07/2022

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product identifier

Trade name 42-S THIRAM FUNGICIDE
Product code (UVP) 80993358
SDS Number 102000026992
EPA Registration No. 264-929

Relevant identified uses of the substance or mixture and uses advised against

Use Fungicide, Repellent, Seed treatment
Restrictions on use See product label for restrictions.

Information on supplier

Supplier Bayer CropScience LP
800 North Lindbergh Blvd.
St. Louis, MO 63167
USA
Responsible Department Email: SDSINFO.BCS-NA@bayer.com

Emergency telephone no.

Emergency Telephone Number (24hr/ 7 days) 1-800-334-7577
Product Information Telephone Number 1-866-99BAYER (1-866-992-2937)

SECTION 2: HAZARDS IDENTIFICATION

Classification in accordance with regulation HCS 29CFR §1910.1200

Specific target organ toxicity - repeated exposure: Category 2
Acute toxicity(Inhalation): Category 4

Labelling in accordance with regulation HCS 29CFR §1910.1200



Signal word: Warning

Hazard statements

SAFETY DATA SHEET



42-S THIRAM FUNGICIDE

Version 3.0 / USA
102000026992

2/12
Revision Date: 07/06/2022
Print Date: 07/07/2022

May cause damage to organs (Liver) through prolonged or repeated exposure.
Harmful if inhaled.

Precautionary statements

Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Use only outdoors or in a well-ventilated area.
Get medical advice/ attention if you feel unwell.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Dispose of contents/container in accordance with local regulation.

Hazards Not Otherwise Classified (HNOC)

No health hazards not otherwise classified.
No physical hazards not otherwise classified.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Thiram	137-26-8	42.0

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice	When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.
Inhalation	Move to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. Call a physician or poison control center immediately.
Skin contact	Wash off immediately with plenty of water for at least 15 minutes. Take off contaminated clothing and shoes immediately. Call a physician or poison control center immediately.
Eye contact	Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.
Ingestion	Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

Most important symptoms and effects, both acute and delayed

Symptoms	Prolonged and repeated contact with skin, eyes or mucous membranes may cause irritation.
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Indication of any immediate medical attention and special treatment needed

SAFETY DATA SHEET



42-S THIRAM FUNGICIDE

Version 3.0 / USA
102000026992

3/12
Revision Date: 07/06/2022
Print Date: 07/07/2022

Treatment	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.
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SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
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Unsuitable	High volume water jet
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Special hazards arising from the substance or mixture	Dangerous gases are evolved in the event of a fire.
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Advice for firefighters

Special protective equipment for firefighters	Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
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Further information	Evacuate personnel to safe areas. Avoid contact with spilled product or contaminated surfaces. Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Whenever possible, contain fire-fighting water by diking area with sand or earth.
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Specific hazards from the substance or mixture which can increase the fire

Flash point	>93.4 °C / 200.12 °F
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Auto-ignition temperature	No data available
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Lower explosion limit	No data available
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Upper explosion limit	No data available
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Explosivity	No data available
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SAFETY DATA SHEET



42-S THIRAM FUNGICIDE

Version 3.0 / USA
102000026992

4/12
Revision Date: 07/06/2022
Print Date: 07/07/2022

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces. Do not breathe vapour.
Remove all sources of ignition.

Methods and materials for containment and cleaning up

Methods for cleaning up Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional advice Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal. Do not allow product to contact non-target plants.

Reference to other sections Information regarding safe handling, see section 7.
Information regarding personal protective equipment, see section 8.
Information regarding waste disposal, see section 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling Handle and open container in a manner as to prevent spillage. Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation.

Hygiene measures Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics.
Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. Protect from freezing.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
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SAFETY DATA SHEET



42-S THIRAM FUNGICIDE

Version 3.0 / USA
102000026992

5/12
Revision Date: 07/06/2022
Print Date: 07/07/2022

Thiram	137-26-8	5 mg/m ³ (PEL)	02 2006	OSHA Z1
Thiram	137-26-8	5 mg/m ³ (TWA)	06 2008	TN OEL
Thiram	137-26-8	5 mg/m ³ (REL)	2005	NIOSH
Thiram	137-26-8	5 mg/m ³ (TWA PEL)	09 2006	US CA OEL
Thiram (Inhalable fraction and vapor.)	137-26-8	0.05 mg/m ³ (TWA)	2008	ACGIH
Thiram	137-26-8	5 mg/m ³ (MAK)		OES BCS*

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

Exposure controls

Personal protective equipment

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

Respiratory protection

When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

Hand protection

Chemical-resistant gloves (barrier laminate, butyl rubber, nitrile rubber or Viton)

Eye protection

Chemical resistant goggles must be worn.

Skin and body protection

Wear long-sleeved shirt and long pants and shoes plus socks.

General protective measures

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables, use detergent and warm/tepid water.
Keep and wash PPE separately from other laundry.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Form	suspension
Colour	white to beige
Odour	characteristic
Odour Threshold	No data available
pH	6.5 - 7.5 (100 %) (23 °C)
Melting point/range	No data available

SAFETY DATA SHEET



42-S THIRAM FUNGICIDE

Version 3.0 / USA
102000026992

6/12
Revision Date: 07/06/2022
Print Date: 07/07/2022

Boiling Point	No data available
Flash point	> 93.4 °C / 200.12 °F
Flammability	No data available
Auto-ignition temperature	No data available
Minimum ignition energy	No data available
Self-accelerating decomposition temperature (SADT)	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Vapour pressure	No data available
Evaporation rate	No data available
Relative vapour density	No data available
Relative density	No data available
Density	1.17 g/cm ³ (20 °C)
Water solubility	miscible
Partition coefficient: n-octanol/water	Thiram: log Pow: 1.84
Viscosity, dynamic	600 - 1,000 mPa.s (25 °C)
Viscosity, kinematic	No data available
Oxidizing properties	No data available
Explosivity	No data available
Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Stable under normal conditions.
Chemical stability	Stable under recommended storage conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use.

SAFETY DATA SHEET



42-S THIRAM FUNGICIDE

Version 3.0 / USA
102000026992

7/12
Revision Date: 07/06/2022
Print Date: 07/07/2022

Conditions to avoid	Heat, flames and sparks. freezing Extremes of temperature and direct sunlight.
Incompatible materials	Copper, Oxidizing agents, Strong acids
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Inhalation, Ingestion, Skin Absorption, Eye contact
Immediate Effects	
Eye	Not expected to produce significant adverse effects when recommended use instructions are followed.
Skin	May be harmful in contact with skin.
Ingestion	May be harmful if swallowed.
Inhalation	Harmful if inhaled.
Information on toxicological effects	
Acute oral toxicity	LD50 (male/female combined Rat) 3,580 mg/kg
Acute inhalation toxicity	LC50 (male/female combined Rat) > 2.6 mg/l Exposure time: 4 h Determined in the form of a respirable aerosol. highest concentration tested
Acute dermal toxicity	LD50 (Rat) > 4,000 mg/kg
Skin corrosion/irritation	slight irritation (Rabbit)
Serious eye damage/eye irritation	slight irritation (Rabbit)
Respiratory or skin sensitisation	Skin: Non-sensitizing. (Guinea pig) OECD Test Guideline 406, Buehler test

Assessment STOT Specific target organ toxicity – single exposure

Thiram: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

Thiram caused specific target organ toxicity in experimental animal studies in the following organ(s):
Liver, forestomach.

Assessment mutagenicity

Thiram was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

SAFETY DATA SHEET



42-S THIRAM FUNGICIDE

Version 3.0 / USA
102000026992

8/12
Revision Date: 07/06/2022
Print Date: 07/07/2022

Thiram was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

Thiram 137-26-8 Group A4

NTP

None.

IARC

Thiram 137-26-8 Overall evaluation: 3

Assessment toxicity to reproduction

Thiram did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Thiram caused developmental toxicity only at dose levels toxic to the dams.

Aspiration hazard

Based on available data, the classification criteria are not met.

Further information

Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish LC50 (Fish) 0.046 - 0.54 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient thiram.

Toxicity to aquatic invertebrates EC50 (Daphnia magna (Water flea)) 0.011 - 0.139 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient thiram.

Toxicity to aquatic plants EC50 (algae) > 0.14 mg/l
Exposure time: 120 h
The value mentioned relates to the active ingredient thiram.

Biodegradability Thiram:
Not rapidly biodegradable

Koc Thiram: Koc: 2245 - 24526

Bioaccumulation Thiram: Bioconcentration factor (BCF) 3.9

Mobility in soil Thiram: Immobile in soil

Results of PBT and vPvB assessment

PBT and vPvB assessment Thiram: This substance is not considered to be persistent, bioaccumulative and toxic (PBT). This substance is not considered to be very persistent and very bioaccumulative (vPvB).

SAFETY DATA SHEET



42-S THIRAM FUNGICIDE

Version 3.0 / USA
102000026992

9/12
Revision Date: 07/06/2022
Print Date: 07/07/2022

Environmental precautions Do not apply directly to water, 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 adjacent sites. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product Dispose in accordance with all local, state/provincial and federal regulations.

Contaminated packaging Consult state and local regulations regarding the proper disposal of container. Follow advice on product label and/or leaflet.

RCRA Information Characterization and proper disposal of this material as a special or hazardous waste is dependent upon Federal, State and local laws and are the user's responsibility. RCRA classification may apply.

SECTION 14: TRANSPORT INFORMATION

49CFR

UN number	3082
Class	9
Packaging group	III
Marine pollutant	Marine pollutant
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (THIRAM)
RQ	Reportable Quantity is reached with 23 lb of product.

IMDG

UN number	3082
Class	9
Packaging group	III
Marine pollutant	YES
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (THIRAM SOLUTION)

IATA

UN number	3082
Class	9
Packaging group	III

SAFETY DATA SHEET



42-S THIRAM FUNGICIDE

Version 3.0 / USA
10200026992

10/12
Revision Date: 07/06/2022
Print Date: 07/07/2022

Environm. Hazardous Mark YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(THIRAM SOLUTION)

This transportation information is not intended to convey all specific regulatory information relating to this product. It does not address regulatory variations due to package size or special transportation requirements.

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 264-929

US Federal Regulations

TSCA list

Water 7732-18-5
Thiram 137-26-8
1,2-Propanediol 57-55-6

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)

No export notification needs to be made.

SARA Title III - Section 302 - Notification and Information

Not applicable.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

Yes

US States Regulatory Reporting

CA Prop65

This product does not contain any substances known to the State of California to cause cancer.

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Quartz (SiO₂) 14808-60-7 Carcinogenic.

US State Right-To-Know Ingredients

Thiram 137-26-8 CA, CT, IL, MN, NJ, RI
1,2-Propanediol 57-55-6 MN, RI

Environmental

CERCLA

Yes

Thiram 137-26-8

Listed

Clean Water Section 307(a)(1)

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

SAFETY DATA SHEET



42-S THIRAM FUNGICIDE

Version 3.0 / USA
102000026992

11/12
Revision Date: 07/06/2022
Print Date: 07/07/2022

EPA/FIFRA Information:

This chemical is a pesticide product regulated by the 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, and for workplace labels of non-pesticide chemicals. Following is the hazard information required on the pesticide label:

Signal word: Caution!

Hazard statements: Harmful if swallowed.
Harmful if absorbed through skin.
Harmful if inhaled.
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
ATE	Acute toxicity estimate
CAS-Nr.	Chemical Abstracts Service number
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
N.O.S.	Not otherwise specified
NTP	US. National Toxicology Program (NTP) Report on Carcinogens
OECD	Organization for Economic Co-operation and Development
TDG	Transportation of Dangerous Goods
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

NFPA 704 (National Fire Protection Association):

Health - 2 Flammability - 1 Instability - 1 Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 2 Flammability - 1 Physical Hazard - 1 PPE -

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason for Revision: The following sections have been revised: Section 3: Composition / Information on Ingredients. Section 8: Exposure Controls / Personal Protection. Section 11: Toxicological Information. Section 13. Disposal considerations. Section 15: Regulatory information. Reviewed and updated for general editorial purposes.

SAFETY DATA SHEET



42-S THIRAM FUNGICIDE

Version 3.0 / USA
102000026992

12/12
Revision Date: 07/06/2022
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Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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