

SAFETY DATA SHEET



VARRO® HERBICIDE

Version 6.0 / USA
102000014337

1/13
Revision Date: 12/02/2024
Print Date: 12/19/2024

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

Product identifier

Trade name	VARRO® HERBICIDE
Product code (UVP)	79303688
SDS Number	102000014337
EPA Registration No.	264-1062

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

Use	Herbicide
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

Skin irritation: Category 2
Eye irritation: Category 2B
Aspiration hazard: Category 1
Carcinogenicity: Category 2

Labelling in accordance with regulation HCS 29CFR §1910.1200



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Signal word: Danger

Hazard statements

May be fatal if swallowed and enters airways.
Causes skin and eye irritation.
Suspected of causing cancer.

Precautionary statements

Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Wash thoroughly after handling.
Wear protective gloves.
IF SWALLOWED: Immediately call a POISON CENTER/doctor/ physician.
Do NOT induce vomiting.
IF ON SKIN: Wash with plenty of water/ soap.
Specific treatment (see supplemental first aid instructions on this label).
If skin irritation occurs: Get medical advice/ attention.
Take off contaminated clothing and wash before reuse.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/ attention.
IF exposed or concerned: Get medical advice/ attention.
Store locked up.
Dispose of contents/container in accordance with local regulation.

Hazards Not Otherwise Classified (HNOC)

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

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Thiocarbazone-methyl	317815-83-1	1.0
Hydrocarbons, C10-C13, aromatics, <1% naphthalene		45.0 – 70.0
Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	7.0 – 13.0
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	68953-96-8	1.0 – 5.0
Naphthalene	91-20-3	0.1 – 1.0

The specific chemical identity and/or concentration range is being withheld because it is trade secret information.

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.

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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	If large amounts are ingested, the following symptoms may occur: Headache, Nausea, Dizziness, Somnolence Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea. Aspiration may cause pulmonary oedema and pneumonitis. Inhalation may provoke the following symptoms: Cough, Shortness of breath, Cyanosis, Fever Symptoms and hazards refer to the solvent.
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Indication of any immediate medical attention and special treatment needed

Risks	Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.
Treatment	Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Unsuitable	High volume water jet

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Special hazards arising from the substance or mixture	In the event of fire the following may be released:, Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Carbon dioxide (CO ₂), Nitrogen oxides (NO _x), Sulphur oxides
Advice for firefighters	
Special protective equipment for firefighters	In the event of fire and/or explosion do not breathe fumes. Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.
Further information	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.

Specific hazards from the substance or mixture which can increase the fire

Flash point	115 °C / 239 °F
Auto-ignition temperature	425 °C / 797 °F
Lower explosion limit	No data available
Upper explosion limit	No data available
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113

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.
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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.
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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.
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	This substance contains 10% or more of an oil as defined in 49 CFR 130.5 when it is shipped in a package of 3,500 gallons or more.
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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.
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SECTION 7: HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling

Use only in area provided with appropriate exhaust ventilation. Handle and open container in a manner as to prevent spillage.

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. 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. Keep away from direct sunlight.

Advice on common storage

Keep away from food, drink and animal feedingstuffs.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Thiocarbazono-methyl	317815-83-1	10 mg/m ³ (TWA)		OES BCS*
Naphthalene	91-20-3	10 ppm (TWA)	2008	ACGIH
Naphthalene	91-20-3	50 mg/m ³ /10 ppm (REL)	2005	NIOSH
Naphthalene	91-20-3	75 mg/m ³ /15 ppm (STEL)	2005	NIOSH
Naphthalene	91-20-3	50 mg/m ³ /10 ppm (PEL)	02 2006	OSHA Z1
Naphthalene	91-20-3	50 mg/m ³ /10 ppm (TWA)	06 2008	TN OEL
Naphthalene	91-20-3	0.5 mg/m ³ /0.1 ppm (TWA PEL)	10 2014	US CA OEL
Naphthalene	91-20-3	75 mg/m ³ /15 ppm (STEL)	01 2019	TN OEL

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

Biological occupational exposure limits

Components	CAS-No.	Parameters	Biological	Sampling	Conc.	Basis
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			specimen	time		
Naphthalene	91-20-3	1-Naphthol, with hydrolysis + 2-Naphthol, with hydrolysis		Sampling time: End of shift.		ACGIH BEI

Exposure controls

Personal protective equipment

Formulated product

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

Tightly fitting safety goggles

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	Liquid
Colour	brown
Odour	aromatic
Odour Threshold	No data available
pH	7.0 - 8.5 (10 %) (23 °C) (deionized water)
Melting point/range	No data available
Boiling Point	No data available
Flash point	115 °C / 239 °F
Flammability	No data available
Auto-ignition temperature	425 °C / 797 °F
Thermal decomposition	No data available
Minimum ignition energy	No data available

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Self-accelarating 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	ca. 1.00 g/cm ³ (20 °C)
Water solubility	dispersible
Partition coefficient: n-octanol/water	Thiencarbazone-methyl: log Pow: -0.13
Viscosity, dynamic	40 - 140 mPa.s (20 °C) Velocity gradient 20 /s 40 - 100 mPa.s (20 °C) Velocity gradient 100 /s
Viscosity, kinematic	23 mm ² /s (40 °C)
Surface tension	24 mN/m (25 °C) Determined in the undiluted form.
Impact sensitivity	Not impact sensitive.
Oxidizing properties	No oxidizing properties
Explosivity	Not explosive 92/69/EEC, A.14 / OECD 113
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 hazardous reactions when stored and handled according to prescribed instructions.

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Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible materials	No incompatible materials known.
Hazardous decomposition products	No decomposition products expected under normal conditions of use.

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes	Eye contact, Skin contact, Inhalation, Ingestion
Immediate Effects	
Eye	May cause temporary eye irritation.
Skin	May be harmful in contact with skin. Causes skin irritation.
Ingestion	May be harmful if swallowed.
Inhalation	May be harmful if inhaled.
Information on toxicological effects	
Acute oral toxicity	LD50 (female Rat) > 2,000 mg/kg
Acute inhalation toxicity	LC50 (Rat) > 1.73 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration. No deaths
Acute dermal toxicity	LD50 (male/female combined Rat) > 2,000 mg/kg
Skin corrosion/irritation	Irritating to skin. (Rabbit)
Serious eye damage/eye irritation	Irritating to eyes. (Rabbit)
Respiratory or skin sensitisation	Skin: Non-sensitizing. (Mouse) OECD Test Guideline 429, local lymph node assay (LLNA)

Assessment STOT Specific target organ toxicity – single exposure

Thiencarbazone-methyl: Based on available data, the classification criteria are not met.

Assessment STOT Specific target organ toxicity – repeated exposure

Thiencarbazone-methyl did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

Thiencarbazone-methyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Thiencarbazone-methyl was not carcinogenic in a lifetime feeding study in rats. Thiencarbazone-methyl caused at high dose levels an increased incidence of tumours in mice in the following organ(s): urinary bladder. The tumours seen with Thiencarbazone-methyl were caused through the chronic irritation due to the presence of bladder stones.

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ACGIH

Naphthalene 91-20-3 Group A3

NTP

Naphthalene 91-20-3

IARC

Naphthalene 91-20-3 Overall evaluation: 2B

Assessment toxicity to reproduction

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

Assessment developmental toxicity

Thiencarbazone-methyl did not cause developmental toxicity in rats and rabbits.

Aspiration hazard

May be fatal if swallowed and enters airways.

Further information

Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).
No further toxicological information is available.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish LC50 (Oncorhynchus mykiss (rainbow trout)) 6.95 mg/l
Exposure time: 96 h

Toxicity to aquatic invertebrates EC50 (Daphnia magna (Water flea)) 2.4 mg/l
Exposure time: 48 h

Toxicity to aquatic plants IC50 (Raphidocelis subcapitata (freshwater green alga)) 1.017 mg/l
Growth rate; Exposure time: 72 h
The value mentioned relates to the active ingredient thiencarbazone-methyl.

IC50 (Lemna gibba (gibbous duckweed)) 0.00131 mg/l
Growth rate; Exposure time: 7 d
The value mentioned relates to the active ingredient thiencarbazone-methyl.

ErC50 (Myriophyllum spicatum (Eurasian watermilfoil)) 0.00094 mg/l
Exposure time: 14 d
The value mentioned relates to the active ingredient thiencarbazone-methyl.

NOEC (Potamogeton pectinatus (sago pondweed)) 0.000075 mg/l
Exposure time: 14 d
The value mentioned relates to the active ingredient thiencarbazone-methyl.

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Biodegradability	Thiocarbazono-methyl: Not rapidly biodegradable
Koc	Thiocarbazono-methyl: Koc: 100
Bioaccumulation	Thiocarbazono-methyl: Does not bioaccumulate.
Mobility in soil	Thiocarbazono-methyl: Moderately mobile in soils
Results of PBT and vPvB assessment	
PBT and vPvB assessment	Thiocarbazono-methyl: 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).
Additional ecological information	No other effects to be mentioned.
Environmental precautions	Do not allow to get into surface water, drains and ground water. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

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
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID, N.O.S. (NAPHTHALENE)
RQ	Reportable Quantity is reached with 19,607 lb of product.

IMDG

UN number	3082
Class	9

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Packaging group III
Marine pollutant YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(THIENCARBAZONE-METHYL SOLUTION)

IATA

UN number 3082
Class 9
Packaging group III
Environm. Hazardous Mark YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
(THIENCARBAZONE-METHYL 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.

Further Information This substance contains 10% or more of an oil as defined in 49 CFR 130.5 when it is shipped in a package of 3,500 gallons or more.

Freight Classification: COMPOUNDS, TREE OR WEED KILLING, N.O.I. other than poison, HAVING A DENSITY OF 20 LBS OR GREATER PER CUBIC FOOT

SECTION 15: REGULATORY INFORMATION

EPA Registration No. 264-1062

US Federal Regulations

TSCA list

Fatty acids, rape-oil, Me esters	85586-25-0
Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9
Castor oil, ethoxylated	61791-12-6
Mefenpyr-diethyl	135590-91-9
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	68953-96-8

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

None.

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US States Regulatory Reporting

CA Prop65

WARNING: This product contains a chemical known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

Naphthalene 91-20-3 Carcinogenic

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

US State Right-To-Know Ingredients

Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene 64742-94-5 CT, IL, NJ, RI

Environmental

CERCLA

Yes

Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene 64742-94-5

Clean Water Section 307(a)(1)

Yes

Naphthalene 91-20-3

Safe Drinking Water Act Maximum Contaminant Levels

Yes

Naphthalene 91-20-3

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, inhaled or absorbed through the skin.
Causes moderate eye irritation.

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

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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 - 3 Flammability - 1 Instability - 0 Others - none

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

Health - 2* Flammability - 1 Physical Hazard - 0 PPE -

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

Reason for Revision: The following sections have been revised: Section 3: Composition / Information on Ingredients. Section 12. Ecological information. Reviewed and updated for general editorial purposes.

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Changes since the last version are highlighted in the margin. This version replaces all previous versions.

This information is provided in good faith but without express or implied warranty. The customer assumes all responsibility for safety and use not in accordance with label instructions. The product names are registered trademarks of Bayer.