

SAFETY DATA SHEET



VARRO® HERBICIDE

Version 6.0 / CDN
102000014337

1/12
Revision Date: 05/20/2021
Print Date: 05/21/2021

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
PCP Registration No. 29070

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 Inc
#200, 160 Quarry Park Blvd, SE
Calgary, Alberta T2C 3G3
Canada
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 1-888-283-6847

SECTION 2: HAZARDS IDENTIFICATION

Classified in accordance with Part 2 of the Hazardous Products Regulations

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

Labelling in accordance with Part 3 of the Hazardous Products Regulations



Signal word: Danger

Hazard statements

May be fatal if swallowed and enters airways.

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Causes skin and eye irritation.

Precautionary statements

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.

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
Mefenpyr-diethyl	135590-91-9	6.1
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	59.4
Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	11.4
Tetrapropylene benzene sulfonate, calcium salt	11117-11-6	3.3

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General advice	Move out of dangerous area. 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	Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. 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.

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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.

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 Water spray, Carbon dioxide (CO₂), Foam, Sand

Unsuitable High volume water jet

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 (CO₂), 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 Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.
Keep out of smoke. Fight fire from upwind position.

Flash point 115 °C

Auto-ignition temperature 425 °C / 797 °F

Lower explosion limit No data available

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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.

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. Keep in suitable, closed containers for disposal.

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 Use only in area provided with appropriate 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. 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 original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Keep away from direct sunlight. Protect from freezing.

Advice on common storage Keep away from food, drink and animal feedingstuffs.

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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*
Mefenpyr-diethyl	135590-91-9	10 mg/m ³ (TWA)		OES BCS*
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene (Vapor.)	64742-94-5	200 mg/m ³ (TWA)	07 2009	CAD AB OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	1,590 mg/m ³ /400 ppm (TWA)	07 2009	CAD AB OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene (Non-aerosol.)	64742-94-5	200 mg/m ³ (TWA)	05 2013	CAD BC OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene (Non-aerosol.)	64742-94-5	200 mg/m ³ (TWA)	03 2014	CAD MB OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene (Non-aerosol.)	64742-94-5	200 mg/m ³ (TWA)	11 2010	CAD ON OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	525 mg/m ³ (TWA)	11 2010	CAD ON OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene (Vapor.)	64742-94-5	250 mg/m ³ (15 MIN ACL)	05 2009	CAD SK OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene (Vapor.)	64742-94-5	200 mg/m ³ (8 HR ACL)	05 2009	CAD SK OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	500 ppm (15 MIN ACL)	05 2009	CAD SK OEL

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Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	400 ppm (8 HR ACL)	05 2009	CAD SK OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	1,590 mg/m ³ /400 ppm (TWA)	11 2011	OEL (QUE)

*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

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
Flammability	No data available
Auto-ignition temperature	425 °C

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Thermal decomposition	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	ca. 1.00 g/cm ³ (20 °C)
Water solubility	dispersible
Partition coefficient: n-octanol/water	Thiencarbazone-methyl: log Pow: -0.13 Mefenpyr-diethyl: log Pow: 3.83 (21 °C)
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 Moderate eye irritation.

Skin Moderate skin irritation.

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.

Mefenpyr-diethyl: 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.

Mefenpyr-diethyl 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.

Mefenpyr-diethyl 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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Mefenpyr-diethyl was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

Solvent Naphtha (petroleum), heavy aromatic, 64742-94-5 Group A3
<1% naphthalene

NTP

None.

OSHA

None.

Assessment toxicity to reproduction

Thiencarbazone-methyl did not cause reproductive toxicity in a two-generation study in rats.
Mefenpyr-diethyl 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.
Mefenpyr-diethyl caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Mefenpyr-diethyl are related to maternal toxicity.

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).

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	EC50 (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. EC50 (Lemna gibba (gibbous duckweed)) 0.00131 mg/l Growth rate; Exposure time: 7 d The value mentioned relates to the active ingredient thiencarbazone-methyl.
Biodegradability	Thiencarbazone-methyl: Not rapidly biodegradable

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	Mefenpyr-diethyl: Not rapidly biodegradable
Koc	Thiencarbazone-methyl: Koc: 100 Mefenpyr-diethyl: Koc: 625
Bioaccumulation	Thiencarbazone-methyl: Does not bioaccumulate. Mefenpyr-diethyl: Bioconcentration factor (BCF) 232 Does not bioaccumulate.
Mobility in soil	Thiencarbazone-methyl: Moderately mobile in soils Mefenpyr-diethyl: Slightly mobile in soils
Results of PBT and vPvB assessment	
PBT and vPvB assessment	Thiencarbazone-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). Mefenpyr-diethyl: 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 apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. 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	It is best to use all of the product in accordance with label directions. If it is necessary to dispose of unused product, please follow container label instructions and applicable local guidelines. Dispose in accordance with all local, state/provincial and federal regulations.
Contaminated packaging	Do not re-use empty containers. Triple rinse containers. Puncture container to avoid re-use. Consult state and local regulations regarding the proper disposal of container. Follow advice on product label and/or leaflet.

SECTION 14: TRANSPORT INFORMATION

TDG

UN number

3082

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Labels 9
Packaging group III
Marine pollutant Marine pollutant
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(THIENCARBAZONE-METHYL)

49CFR Not dangerous goods / not hazardous material

IMDG

UN number **3082**
Class 9
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.

SECTION 15: REGULATORY INFORMATION

PCP Registration No. 29070

PMRA Information:

Read the label, authorized under the Pest Control Products Act, prior to using or handling the pest control product.

This chemical is a pest control product regulated by Health Canada Pest Management Regulatory Agency and is subject to certain labelling requirements under the Pest Control Products Act. These requirements differ from the classification criteria and hazard information required for GHS-consistent safety data sheets. The following is the hazard information required on the pest control product label:

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Signal word: Warning!

Hazard statements: Causes eye irritation.
May cause skin irritation.

There are Canada-specific environmental requirements for handling, use, and disposal of this pest control product that are indicated on the label.

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 - 1 Flammability - 1 Instability - 0 Others - none

HMIS (Hazardous Materials Identification System, based on the Third 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

Reason for Revision: The following sections have been revised: Section 2: Hazards Identification. Section 3: Composition / Information on Ingredients. Section 9: Physical and Chemical Properties. Section 11: Toxicological Information. Section 15: Regulatory information. Reviewed and updated for general editorial purposes.

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