

VARRO® HERBICIDE

Version 4.0 / USA 102000014337

1/13 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

EPA Registration No. 264-1062

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

Use Herbicide

Restrictions on useSee 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

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

Labelling in accordance with regulation HCS 29CFR §1910.1200





| | Signal word: Danger | Hazard statements

May be fatal if swallowed and enters airways.



VARRO® HERBICIDE

Version 4.0 / USA Revision Date: 05/20/2021 102000014337 Print Date: 05/21/2021

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
Thiencarbazone-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.

Move to fresh air. If person is not breathing, call 911 or an ambulance, Inhalation

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.



VARRO® HERBICIDE

Version 4.0 / USA 102000014337

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

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 (HCI), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx), 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



VARRO® HERBICIDE

Version 4.0 / USA 102000014337 Revision Date: 05/20/2021 Print Date: 05/21/2021

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.



VARRO® HERBICIDE

Version 4.0 / USA 102000014337

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

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Thiencarbazone-methyl	317815-83-1	10 mg/m3 (TWA)		OES BCS*
Mefenpyr-diethyl	135590-91-9	10 mg/m3 (TWA)		OES BCS*
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	200 mg/m3 (TWA)	03 2014	ACGIH
(Non-aerosol.)				
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	400 mg/m3/100 ppm (REL)	2010	NIOSH
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	100 mg/m3 (REL)	2010	NIOSH
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	400 mg/m3/100 ppm (PEL)	02 2006	OSHA Z1
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	400 mg/m3/100 ppm (TWA)	1989	OSHA Z1A
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	400 mg/m3/100 ppm (TWA)	06 2008	TN OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	1,600 mg/m3/400 ppm (TWA PEL)	08 2010	US CA OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	1,350 mg/m3/300 ppm (TWA PEL)	09 2013	US CA OEL
Solvent Naphtha (petroleum), heavy aromatic, <1% naphthalene	64742-94-5	1,800 mg/m3/400 ppm (STEL)	09 2013	US CA OEL

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

Exposure controls



VARRO® HERBICIDE

Version 4.0 / USA Revision Date: 05/20/2021 102000014337 Print Date: 05/21/2021

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

Hq 7.0 - 8.5 (10 %) (23 °C) (deionized water)

Melting point/range No data available **Boiling Point** No data available

115 °C Flash point

Flammability No data available

425 °C **Auto-ignition temperature**

Thermal decomposition No data available

Minimum ignition energy No data available Self-accelarating

decomposition temperature

(SADT)

No data available

Upper explosion limit No data available Lower explosion limit No data available No data available Vapour pressure **Evaporation rate** No data available



VARRO® HERBICIDE

Version 4.0 / USA 102000014337

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

Relative vapour density

No data available

Relative density

No data available

Density ca. 1.00 g/cm³ (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 mm²/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.

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



VARRO® HERBICIDE

Version 4.0 / USA 102000014337

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

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 Irritating to eyes. (Rabbit)

irritation

Respiratory or skin Skin: Non-sensitizing. (Mouse) sensitisation 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.

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.



VARRO® HERBICIDE

Version 4.0 / USA 102000014337

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

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

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

invertebrates

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

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



10/13

VARRO® HERBICIDE

Version 4.0 / USA 102000014337

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

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.

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 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)



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Version 4.0 / USA Revision Date: 05/20/2021 102000014337 Print Date: 05/21/2021

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.

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

Solvent Naphtha (petroleum), heavy 64742-94-5

aromatic, <1% naphthalene

Fatty acids, C16-18 and C18-unsatd., Me 67762-38-3

esters

Alcohols, C11-14-iso-, C13-rich, 78330-21-9

ethoxylated

Castor oil, ethoxylated 61791-12-6 Alcohols, C11-14-iso-, C13-rich, 78330-21-9

ethoxylated

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.

US States Regulatory Reporting

CA Prop65

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

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 64742-94-5 CT, NJ, RI

aromatic, <1% naphthalene



VARRO® HERBICIDE

Version 4.0 / USA Revision Date: 05/20/2021 102000014337 Print Date: 05/21/2021

Environmental CERCLA

None.

Clean Water Section 307(a)(1)

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

EPA/FIFRA Information:

This chemical is a pesticide product registered 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 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



VARRO® HERBICIDE

Version 4.0 / USA 102000014337

13/13Revision Date: 05/20/2021
Print Date: 05/21/2021

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.

Revision Date: 05/20/2021

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