

Revision Date: 04/09/2024

Print Date: 04/10/2024

VARRO® HERBICIDE

COMPANY/UNDERTAKING

Version 5.0 / USA 102000014337

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

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 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

Aspiration hazard: Category 1 Skin irritation: Category 2 Eye irritation: Category 2B 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
Thiencarbazone-methyl	317815-83-1	1.0
Mefenpyr-diethyl	135590-91-9	6.0
Hydrocarbons, C10-C13, aromatics, <1% naphthalene		55.9
Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	9.8
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	68953-96-8	2.8
Naphthalene	91-20-3	0.5

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.



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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.

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

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 (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.



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Explosivity

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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

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.

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.

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.

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.

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.



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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
Mefenpyr-diethyl	135590-91-9	10 mg/m3 (TWA)		OES BCS*
Thiencarbazone-methyl	317815-83-1	10 mg/m3 (TWA)		OES BCS*
Naphthalene	91-20-3	10 ppm (TWA)	2008	ACGIH
Naphthalene	91-20-3	50 mg/m3/10 ppm (REL)	2005	NIOSH
Naphthalene	91-20-3	75 mg/m3/15 ppm (STEL)	2005	NIOSH
Naphthalene	91-20-3	50 mg/m3/10 ppm (PEL)	02 2006	OSHA Z1
Naphthalene	91-20-3	50 mg/m3/10 ppm (TWA)	06 2008	TN OEL
Naphthalene	91-20-3	0.5 mg/m3/0.1 ppm (TWA PEL)	10 2014	US CA OEL
Naphthalene	91-20-3	75 mg/m3/15 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 specimen	Sampling time	Conc.	Basis
Naphthalene	91-20-3	1-Naphthol, with hydrolysis + 2-Naphthol, with hydrolysis		Sampling time: End of shift.		ACGIH BEI



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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.

Chemical-resistant gloves (barrier laminate, butyl rubber, nitrile Hand protection

rubber or Viton)

Eye protection Tightly fitting safety goggles

Wear long-sleeved shirt and long pants and shoes plus socks. Skin and body protection

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

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

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 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



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Evaporation rateNo data availableRelative vapour densityNo data availableRelative densityNo data available

Density ca. $1.00 \text{ g/cm}^3 (20 \text{ °C})$

Water solubility dispersible

Partition coefficient: n-

octanol/water

Thiencarbazone-methyl: log Pow: -0.13

Mefenpyr-diethyl: log Pow: 3.83 (21 °C) Phenylsulfonate Ca: log Pow: 4.6

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.

Conditions to avoid Extremes of temperature and direct sunlight.

Incompatible materialsNo incompatible materials known.

Hazardous decomposition

products

No decomposition products expected under normal conditions of use.



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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.

IngestionInhalationMay be harmful if swallowed.

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 eve damage/eve 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. Phenylsulfonate Ca 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. Phenylsulfonate Ca 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.

Phenylsulfonate Ca is not considered carcinogenic.

ACGIH



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Naphthalene 91-20-3 Group A3

NTP

Naphthalene 91-20-3

IARC

Naphthalene 91-20-3 Overall evaluation: 2B OCGEN

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. Phenylsulfonate Ca 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. Phenylsulfonate Ca 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 EC50 (Daphnia magna (Water flea)) 2.4 mg/l

invertebrates Exposure time: 48 h

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 Phenylsulfonate Ca:



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Not rapidly biodegradable

Koc Thiencarbazone-methyl: Koc: 100

Mefenpyr-diethyl: Koc: 625 Phenylsulfonate Ca: Koc: 2.74

Bioaccumulation Thiencarbazone-methyl:

Does not bioaccumulate.

Mefenpyr-diethyl: Bioconcentration factor (BCF) 232

Does not bioaccumulate.

Phenylsulfonate Ca: Bioconcentration factor (BCF) 3.16

Does not bioaccumulate.

Mobility in soil Thiencarbazone-methyl: Moderately mobile in soils

Mefenpyr-diethyl: Slightly mobile in soils Phenylsulfonate Ca: Highly 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).

Phenylsulfonate Ca: 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.



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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
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



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US Federal Regulations

TSCA list

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 Mefenpyr-diethyl 135590-91-9 Solvent Naphtha (petroleum), heavy 64742-94-5

aromatic, <1% naphthalene

Benzenesulfonic acid, mono-C11-13- 68953-96-8

branched alkyl derivs., calcium salts

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.

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.

Naphthalene 91-20-3 Carcinogenic. Crystalline quartz (respirable) 14808-60-7 Carcinogenic.

US State Right-To-Know Ingredients

Solvent Naphtha (petroleum), heavy 64742-94-5 CT, IL, NJ, RI

aromatic, <1% naphthalene

Environmental

CERCLA

Yes

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

aromatic, <1% naphthalene

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



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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 - 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 -

O maining the part of the part

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 2: Hazards Identification. Section 3: Composition / Information on Ingredients. Section 6. Accidental Release Measures. Section 8: Exposure Controls / Personal Protection. Section 9: Physical and Chemical Properties. Section 11: Toxicological Information. Section 12. Ecological information. Section 14: Transport Information. Section 16: Other 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.



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