



Safety Data Sheet VARRO HERBICIDE

SDS Number: 102000014337

SDS Version 1.0

Revision Date: 04/11/2013

Print Date: 04/11/2013

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

| | |
|---------------------------|-----------------|
| Product name | VARRO HERBICIDE |
| SDS Number | 102000014337 |
| Product code (UVP) | 79303688 |
| Product Use | Herbicide |

Bayer CropScience
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
USA

For MEDICAL, TRANSPORTATION or other EMERGENCY call: 1-800-334-7577 (24 hours/day)
For Product Information call: 1-866-99BAYER (1-866-992-2937)

SECTION 2. HAZARDS IDENTIFICATION

NOTE: Please refer to Section 11 for detailed toxicological information.

Emergency Overview Caution! Keep out of the reach of children. Irritating to eyes and skin.

Physical State Liquid

Odor aromatic

Appearance brown

Exposure routes Eye contact, Skin contact, Inhalation, Ingestion

Immediate Effects

Eye Moderate eye irritation. Do not get in eyes.

Skin Moderate skin irritation. Avoid contact with skin and clothing.

Ingestion Do not take internally.

Inhalation Do not breathe vapours or spray mist.

Chronic or Delayed Long-Term

This product or its components may have target organ effects.

Potential Environmental Effect

Toxic to aquatic organisms. May cause long-term adverse effects in the aquatic environment.


Safety Data Sheet
VARRO HERBICIDE

 SDS Number: 102000014337
 SDS Version 1.0

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

| <u>Hazardous Component Name</u> | <u>CAS-No.</u> | <u>Average % by Weight</u> |
|---|----------------|----------------------------|
| Thiencarbazone-methyl | 317815-83-1 | 1.00 |
| Mefenpyr-diethyl | 135590-91-9 | 6.00 |
| Solvent Naphtha (petroleum), heavy aromatic | 64742-94-5 | 56.70 |

SECTION 4. FIRST AID MEASURES

| | |
|--|---|
| General | When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment. |
| Eye | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately. |
| Skin | 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. |
| Ingestion | Rinse out mouth and give water in small sips to drink. Call a physician or poison control center immediately. Never give anything by mouth to an unconscious person. DO NOT induce vomiting unless directed to do so by a physician or poison control center. |
| 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. |
| Notes to physician Signs and Symptoms | No symptoms known or expected. |
| Treatment | There is no specific antidote. Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. |

SECTION 5. FIRE FIGHTING MEASURES

| | |
|-------------------------------------|-------------------|
| Flash point | > 100 °C / 212 °F |
| Autoignition temperature | no data available |
| Lower Flammability Limit | no data available |
| Upper Flammability Limit | no data available |



Safety Data Sheet VARRO HERBICIDE

SDS Number: 102000014337
SDS Version 1.0

| | |
|-------------------------------------|--|
| Explosiveness | not applicable |
| Fire and Explosion Hazards | In the event of fire the following may be released: Hydrogen cyanide (hydrocyanic acid) Carbon monoxide (CO) Nitrogen oxides (NOx) Sulphur oxides |
| Suitable extinguishing media | Water spray, Carbon dioxide (CO ₂), Foam, Sand |
| Fire Fighting Instructions | Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses. 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. |

SECTION 6. ACCIDENTAL RELEASE MEASURES

| | |
|--------------------------------|--|
| Personal precautions | Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. Remove all sources of ignition. |
| Methods for cleaning up | Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal. |
| Additional advice | Do not allow to enter soil, waterways or waste water canal. |

SECTION 7. HANDLING AND STORAGE

| | |
|---------------------------------|--|
| Handling procedures | Use only in area provided with appropriate exhaust ventilation. Keep away from heat and sources of ignition. |
| Storing Procedures | Store in a place accessible by authorized persons only. Keep containers tightly closed in a dry, cool and well-ventilated place. Protect from freezing. Keep away from food, drink and animal feedingstuffs. |
| Work/Hygienic Procedures | Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing. |



Safety Data Sheet VARRO HERBICIDE

SDS Number: 102000014337
SDS Version 1.0

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

| | |
|-------------------------------|---|
| General Protection | Follow all label instructions. 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. |
| Eye/Face Protection | Chemical resistant goggles must be worn. |
| Hand protection | Chemical resistant nitrile rubber gloves |
| Body Protection | Wear long-sleeved shirt and long pants and shoes plus socks. |
| 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. |

Exposure Limits

| | | | | |
|---|-------------|----------|---------|----------|
| Thiocarbazone-methyl | 317815-83-1 | OES BCS* | OES BCS | 10 mg/m3 |
| Mefenpyr-diethyl | 135590-91-9 | OES BCS* | OES BCS | 10 mg/m3 |
| Solvent Naphtha (petroleum), heavy aromatic | 64742-94-5 | TX ESL | ST ESL | 460 ppm |
| | | TX ESL | AN ESL | 46 ppm |

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

| | |
|--------------------------------|-------------------------------------|
| Appearance | brown |
| Physical State | Liquid |
| Odor | aromatic |
| pH | 6.5 - 8.0 (1 %) at 23 °C |
| Vapor Pressure | no data available |
| Vapor Density (Air = 1) | no data available |
| Density | ca. 1.00 g/cm ³ at 20 °C |
| Evaporation rate | no data available |
| Boiling Point | no data available |



Safety Data Sheet VARRO HERBICIDE

SDS Number: 102000014337
SDS Version 1.0

| | |
|---|--|
| Melting / Freezing Point | no data available |
| Water solubility | dispersible |
| Minimum Ignition Energy | not applicable |
| Decomposition temperature | Stable under normal conditions. |
| Partition coefficient: n-octanol/water | no data available |
| Viscosity | 40 - 150 mPa.s at 20 °C Velocity gradient 20 /s |
| Other information | Further safety related physical-chemical data are not known. |

SECTION 10. STABILITY AND REACTIVITY

| | |
|---|--|
| Conditions to avoid | Extremes of temperature and direct sunlight. |
| Incompatibility | Store only in the original container. |
| Hazardous Decomposition Products | No decomposition products expected under normal conditions of use. |
| Hazardous reactions | No hazardous reactions when stored and handled according to prescribed instructions. |

SECTION 11. TOXICOLOGICAL INFORMATION

Only acute toxicity studies have been performed on the formulated product. The non-acute information pertains to the technical-grade active ingredient, Thiencarbazone-methyl, as well as, the herbicide safener, Mefenpyr-diethyl.

| | |
|------------------------------|---------------------------------|
| Acute oral toxicity | female rat: LD50: > 2,000 mg/kg |
| Acute dermal toxicity | rat: LD50: > 2,000 mg/kg |



Safety Data Sheet VARRO HERBICIDE

SDS Number: 102000014337
SDS Version 1.0

| | |
|----------------------------------|--|
| Acute inhalation toxicity | rat: LC50: > 1.73 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. Highest attainable concentration. No deaths rat: LC50: > 6.92 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50. |
| Skin irritation | rabbit: Moderate skin irritation. |
| Eye irritation | rabbit: Moderate eye irritation. |
| Sensitisation | mouse: Non-sensitizing. OECD Test Guideline 429, local lymph node assay (LLNA) |
| Chronic toxicity | 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 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

None.

NTP

None.

IARC

None.

OSHA

None.

| | |
|-------------------------------|---|
| Reproductive toxicity | 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. |
| 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 |



Safety Data Sheet
VARRO HERBICIDE

SDS Number: 102000014337
SDS Version 1.0

dams. The developmental effects seen with Mefenpyr-diethyl are related to maternal toxicity.

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.

SECTION 12. ECOLOGICAL INFORMATION

| | |
|--|--|
| Toxicity to fish | Rainbow trout (<i>Oncorhynchus mykiss</i>) LC50: > 104 mg/l Exposure time: 96 h |
| Toxicity to aquatic plants | Pseudokirchneriella subcapitata Growth rate EC50: 1.017 mg/l Exposure time: 72 h Lemna gibba (duckweed) Growth rate EC50: 0.00131 mg/l Exposure time: 7 d |
| Acute Toxicity to Aquatic Invertebrates | Water flea (<i>Daphnia magna</i>) EC50: > 98.6 mg/l Exposure time: 48 h |
| Stability in soil | Not applicable for this mixture. |
| Bioaccumulation | Not applicable for this mixture. |
| Environmental precautions | Do not allow to get into surface water, drains and ground water. |
| Ecological Information | The ecological data given are those of the active ingredient. |

SECTION 13. DISPOSAL CONSIDERATIONS

| | |
|----------------------------------|---|
| General Disposal Guidance | In accordance with current regulations and, if necessary, after consultation with the site operator and/or with the responsible authority, the product may be taken to a waste disposal site or incineration plant. |
| Container Disposal | Triple rinse containers. Do not re-use empty containers. Puncture container to avoid re-use. Follow advice on product label and/or leaflet. |



Safety Data Sheet VARRO HERBICIDE

SDS Number: 102000014337
SDS Version 1.0

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 |
| Description of the goods | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (THIENCARBAZONE-METHYL SOLUTION) |

IATA

| | |
|--------------------------|--|
| UN number | 3082 |
| Class | 9 |
| Packaging group | III |
| Environm. Hazardous Mark | YES |
| Description of the goods | 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

US Federal Regulations

TSCA list

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

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

None.

SARA Title III - Section 302 - Notification and Information

None.

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



Safety Data Sheet VARRO HERBICIDE

SDS Number: 102000014337
SDS Version 1.0

None.

Canadian Regulations

Canadian Domestic Substance List

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

Environmental

CERCLA

None.

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

International Regulations

European Inventory of Existing Commercial Substances (EINECS)

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

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 1 Flammability - 1 Instability - 0 Others - none

HMS (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: New Safety Data Sheet.

Revision Date: 04/11/2013

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.