



Safety Data Sheet - GHS

1. IDENTIFICATION: CHEMICAL PRODUCT AND COMPANY

PRODUCT NAME: BOLERO® UltraMax
EPA REGISTRATION NUMBER: 59639-112
VC NUMBER(S): 1403
SYNONYM(S): None
PRODUCT DESCRIPTION: Rice herbicide

MANUFACTURER/DISTRIBUTOR

VALENT U.S.A. LLC
P.O. Box 5075
4600 Norris Canyon Road
San Ramon, CA 94583

EMERGENCY TELEPHONE NUMBERS

HEALTH EMERGENCY OR SPILL (24 hr):
(800) 892-0099
TRANSPORTATION (24 hr.): CHEMTREC
(800) 424-9300 or (202) 483-7616

PRODUCT INFORMATION

AGRICULTURAL PRODUCTS: (800) 682-5368

The current SDS is available through our website (www.valent.com), or by calling the product information numbers listed above.

2. HAZARDS IDENTIFICATION

This product is an EPA FIFRA registered pesticide. Some classifications on this SDS are not the same as the FIFRA-required classifications on the product label. Certain sections of this SDS are superseded by federal law under EPA FIFRA for a registered pesticide. Please see Section 15, REGULATORY INFORMATION for an explanation.

Classification - (per U.S. OSHA 29 CFR 1910.1200 (Hazcom 2012))

Acute toxicity - Inhalation (Dusts/Mists)

Category 4

Label elements**EMERGENCY OVERVIEW****WARNING****Hazard statements**

Harmful if inhaled

Precautionary statements**Prevention**

Avoid breathing dust/fume/gas/mist/vapors/spray
Use only outdoors or in a well-ventilated area

Response

Eyes None.

Skin None.

Inhalation IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Ingestion None.

FIRE None.

Spill None.

Storage

None

Disposal

None

Hazards not otherwise classified (HNOC)**Other Information**

- Very toxic to aquatic life

For information on Transportation requirements, see Section 14.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS No.	Weight-%	TRADE SECRET
Thiobencarb	28249-77-6	15	
Magnesium silicate, hydrated	63800-37-3	85	

4. FIRST AID MEASURES**EMERGENCY NUMBER (800) 892-0099**

Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact **1-800-892-0099** for emergency medical treatment information.

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 poison control center or doctor for treatment advice.

SKIN CONTACT:

Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

INGESTION:

Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless told to do so by the poison control center or doctor. Do not give anything to an unconscious person.

INHALATION:

Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably by mouth-to-mouth, if possible. Call a poison control center or doctor for further treatment advice.

NOTES TO PHYSICIAN:

Thiobencarb is a cholinesterase inhibitor. If signs of cholinesterase inhibition appear, atropine is antidotal.

5. FIRE FIGHTING MEASURES

Flash point °C

Flash point °F Not applicable

FLAMMABLE LIMITS IN AIR - LOWER (%):

Not applicable

FLAMMABLE LIMITS IN AIR - UPPER (%):

Not applicable

NFPA RATING:

Health:	1
Flammability:	0
Reactivity:	0
Special:	None

(Least-0, Slight-1, Moderate-2, High-3, Extreme-4). These values are obtained using professional judgement. Values were not available in the guidelines or published evaluations prepared by the National Fire Protection Association, NFPA.

FIRE FIGHTING INSTRUCTIONS: Minimize use of water to prevent environmental contamination. Use self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal decomposition may produce toxic compounds from partial decomposition, as well as oxides of carbon, oxides of nitrogen, oxides of sulfur, and hydrochloric acid.

6. ACCIDENTAL RELEASE MEASURES

VALENT EMERGENCY PHONE NUMBER: (800) 892-0099

CHEMTREC EMERGENCY PHONE NUMBER: (800) 424-9300

OBSERVE PRECAUTIONS IN SECTION 8: PERSONAL PROTECTION

Stop the source of the spill if safe to do so. Contain the spill to prevent further contamination of the soil, surface water, or ground water. For additional spill response information refer to the North American Emergency Response Guidebook.

UN/NA NUMBER: Not applicable

EMERGENCY RESPONSE GUIDEBOOK NO.: Not applicable

FOR SPILLS ON LAND:

CONTAINMENT: Reduce airborne dust. Avoid runoff into storm sewers or other bodies of water.

CLEANUP: Clean up spill immediately. Vacuum or sweep up material and place in a chemical waste container. Wash area with soap and water. Pick up wash liquid with additional absorbent and place in a chemical waste

container.

FOR SPILLS IN WATER:

CONTAINMENT: This material is miscible/dispersible in water. Stop or reduce contamination of any water. Isolate contaminated water.

CLEANUP: Remove contaminated water for treatment or disposal.

7. HANDLING AND STORAGE

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

HANDLING:

Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing. Use this material only in well ventilated areas. If operating conditions result in airborne concentrations of this material, the use of an approved respirator is recommended.

STORAGE:

Keep pesticide in original container only. Do not put concentrate into food or drink containers. Do not dilute concentrate in food or drink containers. Store in cool, dry, secure place. Protect from excessive heat.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

END USER MUST READ AND OBSERVE ALL PRECAUTIONS ON PRODUCT LABEL.

EYES & FACE: Do not get this material in your eyes. Eye contact can be avoided by wearing safety goggles or a face shield.

RESPIRATORY PROTECTION: Use this material only in well ventilated areas. If ventilation is not adequate to keep airborne concentrations below recommended exposure standards, approved respiratory protection should be worn.

SKIN & HAND PROTECTION: Wear protective clothing (long-sleeved shirt and long pants), chemical-resistant gloves (such as barrier laminate or Viton ≥ 14 mils), and shoes plus socks.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

EXPOSURE LIMITS

Chemical name	ACGIH Exposure Limits	OSHA Exposure Limits	Manufacturer's Exposure Limits
Thiobencarb	None	None	None
Magnesium silicate, hydrated	None	None	None

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Solid	Odor	No information available
Appearance	Dry, free flowing granules	Odor threshold	No information available
Color	Tan		

Emergency Telephone: (800) 892-0099
REVISION NUMBER: 3

SDS NO.: 0351
REVISION DATE: 09/03/2020

PROPERTIES	Values	Remarks • Method
pH	7.7	@ 25°C (1% suspension)
Melting point/freezing point	No information available	
Boiling point/boiling range	No information available	
Flash point	No information available	Not applicable
Evaporation rate	No information available	
Flammability (solid, gas)	No information available	
Flammability Limits in Air		
Upper flammability limits	No information available	
Lower flammability limit	No information available	
Vapor pressure	No information available	
Vapor density	No information available	
Specific Gravity	No information available	
Water solubility	Dispersible	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Viscosity	Not applicable	
Explosive properties	No information available	
Oxidizing properties	No information available	
Liquid Density	No information available	
Bulk density	47.0 lb/ft ³	

10. STABILITY AND REACTIVITY

Reactivity

No data available

Chemical stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

None under normal processing.

Conditions to avoid

Extremes of temperature and direct sunlight.

Incompatible materials

None known based on information supplied.

Hazardous Decomposition Products

May decompose under fire conditions, emitting gases and vapors which may be toxic and irritating to the respiratory tract.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

The following acute toxicology information is based on a similar product formulation.

Oral Toxicity LD ₅₀ (rats)	> 5,000 mg/kg	EPA Tox Category	IV
Dermal Toxicity LD ₅₀ (rabbits)	> 5,000 mg/kg	EPA Tox Category	IV

Inhalation Toxicity LC ₅₀ (rats)	> 2.55 mg/L (4h)	EPA Tox Category	IV
Eye Irritation (rabbits)	Slightly irritating	EPA Tox Category	III
Skin Irritation (rabbits)	Non-irritating	EPA Tox Category	IV
Skin Sensitization (guinea pigs)	Non-sensitizer	EPA Tox Category	Not applicable

CARCINOGEN CLASSIFICATION

Chemical name	IARC Group 1 or 2	OSHA - Select Carcinogens	NTP Carcinogen List
Thiobencarb	Not listed	Not listed	Not listed
Magnesium silicate, hydrated	Group 3	Not listed	Not listed

TOXICITY OF THIOBENCARB TECHNICAL

SUBCHRONIC: The dermal administration of Bolero 8 EC to rats, six hours per day, five days per week for three weeks, at doses up to 500 mg/kg/day caused reduced body weight gains, body weight and food efficiency. Slight increases in red, dry and flaky skin were observed. The LOEL was 40 mg/kg/day. An eight week dietary range-finding study in rats with thiobencarb technical at doses up to 450 mg/kg/day produced effects consistent with poor palatability (taste) such as weight loss, decreased food consumption, etc. In a 4-week oral toxicity study with thiobencarb technical in dogs with doses of 1, 4, 16 and 64 mg/kg/day, the primary observation was decreased plasma cholinesterase values in the 16 and 64 mg/kg/day dose groups.

CHRONIC/CARCINOGENICITY: Prolonged administration of the active ingredient thiobencarb technical to rats, mice and dogs did not increase their incidence of cancer over that of untreated animals. The primary significant findings were generally attributable to the poor palatability of the diet (e.g. weight loss). The 2 year mouse oncogenicity study demonstrated no oncogenic potential. The systemic NOEL was 3 mg/kg/day for males and 5 mg/kg/day for females based on histopathological changes in the liver. The 2-year rat oncogenicity study showed no carcinogenicity at 25 mg/kg/day and a systemic NOEL of 1 mg/kg/day based on decreased body weight gain, food consumption and efficiency and increased blood urea nitrogen. A 1-year dog study showed a systemic NOEL of 8 mg/kg/day based on decreased body weight gain, increased liver and kidney weights, and hematological and clinical chemistry changes, and a plasma cholinesterase NOEL of 1 mg/kg/day.

NEUROTOXICITY: Based on acute and subchronic (13-week) studies in rats, thiobencarb technical is not expected to be neurotoxic. The systemic and neurobehavioral NOEL in the rat acute study was 100 mg/kg based on increased clinical signs and gait abnormalities, decreased sensory responses, decreased body temperature and decreased motor activity. In the subchronic study, the systemic NOEL was 2 mg/kg/day based on increased clinical signs, decreased body weights, and increased liver and kidney weights. The neurotoxicity NOEL was > 100 mg/kg/day, the highest dose tested.

DEVELOPMENTAL TOXICITY: Thiobencarb technical did not cause birth defects when tested in experimental animals. Teratology studies conducted in rats with 5, 25 and 150 mg/kg for gestation days 6 to 19 show no teratogenic effects at any dose level. Treatment with 150 mg/kg did, however, result in reduced maternal body weight gain and in reduced fetal weights. The maternal and developmental NOELs are 25 mg/kg/day. A teratology study was also conducted in rabbits at dose levels of 2, 20 and 100 mg/kg/day for the day 7-29 gestation period. Maternal body weight gain and mean fetal weights were reduced at 20 and 100 mg/kg/day dose levels, but there were no teratogenic effects. Shortening the treatment period in rabbits to gestation day 6 - 18 reduced maternal and fetal toxicity. Treatment with 20, 100 and 200 mg/kg/day produced no fetal toxicity, teratogenicity or significant maternal effects. Therefore, the maternal NOEL is 100 mg/kg/day and the developmental NOEL is 200 mg/kg/day (the highest dose tested).

REPRODUCTION: Two generation reproduction studies conducted with thiobencarb technical in rats at dose levels ranging from 2 to 100 mg/kg/day did not impair reproductive performance. Relative and absolute liver and kidney weights were increased in both F0 and F1 generations at 20 and 100 mg/kg/day. Decreased body weight gain was observed at 100 mg/kg/day in both generations of the male and in the F1 female generation. The reproductive toxicity NOEL was 100 mg/kg/day.

MUTAGENICITY: Thiobencarb technical is not expected to pose a genetic hazard. It has been studied in in vitro assays for gene mutation, structural chromosome aberrations and DNA damage/repair as well as in vivo assays measuring micronucleus formation and in the dominant lethal assay. The results for all tests except the in vivo micronucleus test were negative. This single report of a positive response is not cause for concern when evaluated in the context of the oncogenicity, teratogenicity and reproductive toxicity studies.

For a summary of the potential for adverse health effects from exposure to this product, refer to Section 2. For information regarding regulations pertaining to this product, refer to Section 15.

12. ECOLOGICAL INFORMATION

AVIAN TOXICITY: Thiobencarb technical is practically nontoxic to birds. Test results include:

Oral LD₅₀ Northern bobwhite: >1938 ppm
Oral LC₅₀ (feeding for 8 weeks) Northern bobwhite: >5620 ppm
Oral LC₅₀ (feeding for 5 days) Mallard duck: >5000 ppm
Reproduction (Northern bobwhite): NOEC: 267 ppm, LOEC: 930 ppm
Reproduction (Mallard duck): NOEC: 100 ppm, LOEC: 300 ppm

AQUATIC ORGANISM TOXICITY: Freshwater species: Thiobencarb technical is moderately to highly toxic to freshwater fish and invertebrates. Studies with the technical material and the formulated product show that the LC₅₀'s were generally greater than 1 ppm. The following LC₅₀ values summarize the acute toxicity findings for the Bolero 8 EC:

Bluegill sunfish: 1.7 ppm
Rainbow trout: 1.1 ppm
Channel catfish: 2.3 ppm
Daphnid: 0.17 ppm
Scud Gammarus: 1.0 ppm
Apple snail: 1.85 ppm

Thiobencarb technical can inhibit the reproduction in freshwater invertebrates (Daphnid) at concentrations as low as 3.0 µg/L. Marine/estuarine species: Thiobencarb technical and Bolero 8 EC are moderately to highly acutely toxic to marine/estuarine fish and invertebrates.

OTHER NON-TARGET ORGANISM TOXICITY:

Exposure of non-target organisms such as honey bees is not expected under normal use conditions of products containing Thiobencarb Technical.

OTHER ENVIRONMENTAL INFORMATION:

This product is toxic to fish and shrimp. Do not apply directly to water, to areas where surface water is present, or to intertidal areas below mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters. See Directions for Use on product label for additional precautions and restrictions.

13. DISPOSAL CONSIDERATIONS

END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.

PRODUCT DISPOSAL: Wastes resulting from the use of this product may be disposed of on site or at an approved

waste disposal facility.

CONTAINER DISPOSAL: Nonrefillable outer bag. Do not reuse or refill the outer bag. Completely empty bag into application equipment. Then dispose of empty bag in a sanitary landfill or by incineration, or, if allowed by State and local authorities, by burning. If burned, stay out of smoke.

DISPOSAL METHODS: Do not contaminate water, food or feed by storage, disposal or cleaning of equipment. Open dumping is prohibited. Check government regulations and local authorities for approved disposal of this material. Dispose of in accordance with applicable laws and regulations.

14. TRANSPORTATION INFORMATION

DOT (ground) SHIPPING NAME: Not regulated for domestic ground transport by U.S. DOT
EMERGENCY RESPONSE Not applicable
GUIDEBOOK NO.:

ICAO/IATA SHIPPING NAME: UN 3082 Environmentally Hazardous Substance, Solid, N.O.S. (Thiobencarb), 9, III, Marine Pollutant

REMARKS: •Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations -- see UN Special Provision 375. •For US shipping, Emergency Response Guidebook No. 171

IMDG SHIPPING NAME: UN 3082 Environmentally Hazardous Substance, Solid, N.O.S. (Thiobencarb), 9, III, Marine Pollutant

REMARKS: •Single or inner packaging less than 5 L (liquid) or 5 Kg net (solids) excepted from Dangerous Goods regulations – see IMDG 2.10.2.7
•For US shipping, Emergency Response Guidebook No. 171

EMS NO.: F-A, S-F

15. REGULATORY INFORMATION

EPA-FIFRA LABEL INFORMATION THAT DIFFERS FROM OSHA-GHS REQUIREMENTS:

Pesticide products in the U.S. are registered by the EPA under FIFRA and are subject to certain labeling requirements under federal pesticide law. These requirements may differ from the classification criteria and hazard information required by OSHA GHS for safety data sheets, and for workplace labels of non-pesticide chemicals. The following is the hazard information as required on the FIFRA pesticide label:

- **EPA FIFRA SIGNAL WORD: CAUTION**
- **Causes eye irritation.**
- **Avoid contact with eyes, skin and clothing.**
- **Avoid breathing dust**
- **Keep out of reach of children.**

PESTICIDE REGULATIONS: All pesticides are governed under FIFRA (Federal Insecticide, Fungicide, and Rodenticide Act). Therefore, the regulations presented below are pertinent only when handled outside of the normal use and applications of pesticides. This includes waste streams resulting from manufacturing/formulation facilities, spills or misuse of products, and storage of large quantities of products containing hazardous or extremely hazardous substances.

U.S. FEDERAL REGULATIONS: Ingredients in this product are reviewed against an inclusive list of federal regulations. Therefore, the user should consult appropriate authorities. The federal regulations reviewed include:

Clean Water Act, SARA, CERCLA, RCRA, DOT, TSCA and OSHA. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

Thiobencarb

SARA 313 Chemicals

1.0% de minimis concentration

SARA (311, 312):

Immediate Health:	Yes
Chronic Health:	Yes
Fire:	No
Sudden Pressure:	No
Reactivity:	No

STATE REGULATIONS: Each state may promulgate standards more stringent than the federal government. This section cannot encompass an inclusive list of all state regulations. Therefore, the user should consult state or local authorities. The state regulations reviewed include: California Proposition 65, California Directors List of Hazardous Substances, Massachusetts Right to Know, Michigan Critical Materials List, New Jersey Right to Know, Pennsylvania Right to Know, Rhode Island Right to Know and the Minnesota Hazardous Substance list. For Washington State Right to Know, see Section 8 for Exposure Limit information. For Louisiana Right to Know refer to SARA information listed under U.S. Regulations above. If no components or information is listed in the space below this paragraph, then none of the regulations reviewed are applicable.

Thiobencarb

California - Directors List of Hazardous Substances	Present
NJ Right To Know	3472

For information regarding potential adverse health effects from exposure to this product, refer to Sections 2 and 11.

16. OTHER INFORMATION

REASON FOR ISSUE:	Update the Manufacturer's address.
SDS NO.:	0351
EPA REGISTRATION NUMBER:	59639-112
REVISION NUMBER:	3
REVISION DATE:	09/03/2020
SUPERCEDES DATE:	09/25/2019
RESPONSIBLE PERSON(S):	Valent U.S.A. LLC, Corporate EH&S, (925) 256-2803

The information provided in this Safety Data Sheet (SDS) is provided in good faith and believed to be accurate at the time of preparation of the SDS. However, to the extent consistent with applicable law, Valent U.S.A. LLC and its subsidiaries or affiliates extend no warranties, make no representations, and assume no responsibility as to the accuracy, suitability, or completeness of such information. Additionally, to the extent consistent with applicable law, neither Valent U.S.A. LLC nor any of its subsidiaries or affiliates represents or guarantees that this information or product may be used without infringing the intellectual property rights of others. Except to the extent a particular use and particular information are expressly stated on the product label, it is the users' own responsibility to determine the suitability of this information for their own particular use of this product. If necessary, contact Valent U.S.A. LLC to confirm that you have the most current product label and SDS.

This SDS provides important health, safety, and environmental information for employers, employees, emergency responders and others handling large quantities of the product in activities generally other than product use as

required by the Occupational Health and Safety Act (29 CFR 1910.1200, "Hazcom").

The product label provides information specifically for product use in the ordinary course. All necessary hazard classification and appropriate precautionary use, storage, and disposal information is set forth on that label or labeling accompanying the pesticide or to which reference is made on the label.

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