



Safety Data Sheet

COBRA® Herbicide

1. IDENTIFICATION: CHEMICAL PRODUCT AND COMPANY

PRODUCT NAME: COBRA® Herbicide
EPA REGISTRATION NUMBER: 59639-34
PRODUCT CODE: 86640
VC NUMBER(S): 1199 & 1632
SYNONYM(S): None

MANUFACTURER/DISTRIBUTOR
VALENT U.S.A. CORPORATION
P.O. Box 8025
1600 Riviera Avenue, Suite 200
Walnut Creek, CA 94596-8025

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

2. HAZARDS IDENTIFICATION

For EPA FIFRA-specific information see Section 15

Classification

Flammable liquids

Category 4

Label elements

EMERGENCY OVERVIEW

WARNING

Combustible liquid

Precautionary Statements - Prevention

Read product label prior to using this product. For specific handling instruction refer to Section 7, Handling and Storage

Precautionary Statements - Response

See Section 4, First Aid Measures

Emergency Telephone: 800-682-5368
REVISION NUMBER: 1

SDS NO.: 0166
REVISION DATE: 05/01/2014

Precautionary Statements - Storage

For information on Storage and Handling see Section 7.

Precautionary Statements - Disposal

For further information on product and container disposal see Section 13.

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

- Toxic to aquatic life
 - Toxic to aquatic life with long lasting effects
- 100% of the mixture consists of ingredient(s) of unknown toxicity

For information on Transportation requirements see Section 14.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS Number	Weight/ Percent	TRADE SECRET
Lactofen (2-ethoxy-1-methyl-2-oxoethyl 5-[2-chloro-4-(trifluoromethyl)phenoxy]-2-nitrobenzoate) *	77501-63-4	23 - 25	
Others	No CAS#	14 - 21	
Total hydrocarbons	64742-94-5	55 - 60	
Naphthalene	91-20-3	5 - 6	

* The chemical name, CAS number and/or exact percentage have been withheld as a trade secret

Other ingredients, which may be maintained as trade secrets, are any substances other than an active ingredient contained in this product. Some of these may be hazardous, but their identities are withheld because they are considered trade secrets. The hazards associated with the other ingredients are addressed in this document. Specific information on other ingredients for the management of exposures, spills, or safety assessments can be obtained by a treating physician or nurse by calling **(800) 892-0099** at any time.

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:

Immediately call a poison control center or doctor. Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give any liquid to the person. Do not give anything by mouth 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:

Ingestion of this product or subsequent vomiting can result in aspiration of light hydrocarbon liquid, which can cause pneumonitis. If ingested, probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE FIGHTING MEASURES

Flash point °C	61.1
FLASH POINT:	142-144°F
Flash point °F	142
FLASH POINT METHOD:	SetaFlash Closed Cup

NFPA RATING:

Health:	3
Flammability:	2
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: Liquid evaporates and forms vapor (fumes) which can catch fire and burn with explosive violence. Invisible vapor spreads easily and can be set on fire by many sources such as pilot lights, welding equipment, and electrical motors and switches. Fire hazard is greater as liquid temperature rises above 85 degrees F.

Products of combustion from fires involving this material may be toxic. Avoid breathing smoke and mists. Avoid personnel and equipment contact with fallout and runoff. Minimize the amount of water used for fire fighting. Do not enter any enclosed area without full protective equipment, including self-contained breathing equipment. Contain and isolate runoff and debris for proper disposal. Decontaminate personal protective equipment and fire fighting equipment before reuse.

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: NA 1993

EMERGENCY RESPONSE GUIDEBOOK NO.: 128

CONTAINMENT: Avoid runoff into storm sewers and ditches which lead to waterways. Contain spilled liquids with dry sorbents.

CLEANUP: Clean up spill immediately. Absorb spill with inert material (such as dry sand or earth), then 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.

CONTAINMENT: This material forms an emulsion 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:

DO NOT USE OR STORE near flame, sparks or hot surfaces. Use only in well ventilated area. Keep container closed.

DO NOT weld, heat or drill container. Replace cap or bung. Emptied container still contains hazardous or explosive vapor or liquid.

Keep pesticide in original container. Do not store or transport near food or feed. Do not contaminate food or feed. Do not put concentrate into food or drink containers. Do not dilute concentrate in food or drink containers. Store in a cool, dry place, out of direct sunlight.

STORAGE:

Do not store at temperatures below 32°F. If the product is exposed to temperatures below 32°F, thaw at room temperature to 50°F or warmer and shake gently to unify the product.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

EYES & FACE: Appropriate eye protection must be worn when working with this material or serious harm can result. Wear protective eyewear.

RESPIRATORY PROTECTION: This material may be a respiratory irritant and, unless ventilation is adequate, the use of approved respiratory protection is recommended. Use this material only in well ventilated areas.

SKIN & HAND PROTECTION: Causes skin burns. When handling this material, wear impervious protective clothing, which should include chemical resistant gloves, apron, overshoes and complete facial protection.

EXPOSURE LIMITS

Chemical Name	ACGIH Exposure Limits	OSHA Exposure Limits	Manufacturer's Exposure Limits
Lactofen (2-ethoxy-1-methyl-2-oxoethyl 5-[2-chloro-4-(trifluoromethyl)phenoxy]-2-nitrobenzoate) *	None	None	None
Others	Not known	Not known	Not known
Total hydrocarbons	100 mg/m ³ TWA (17 ppm) TWA	None	None
Naphthalene	10 ppm TWA, 15 ppm STEL skin - potential for absorption	10 ppm TWA, 15 ppm STEL 50 mg/m ³ TWA, 75 mg/m ³ STEL	None

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state	Liquid	Odor	AROMATIC
Appearance	No information available	Odor threshold	No information available
Color	Amber		

<u>PROPERTIES</u>	<u>Values</u>	<u>Remarks • Method</u>
pH	5.9	1% solution
Melting point/freezing point	No information available	
Boiling point/boiling range	No information available	
Flash point	61.1 142	
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	Emulsifiable	
Solubility in other solvents	No information available	
Partition coefficient	No information available	
Autoignition temperature	No information available	
Decomposition temperature	No information available	
Viscosity	No data available	
Explosive properties	No information available	
Oxidizing properties	No information available	
Density	No information available	
Bulk density	No information available	

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

None known based on information supplied.

11. TOXICOLOGICAL INFORMATION

ACUTE TOXICITY:

There is no toxicology information available for this product. The information provided is based on studies done with a product formulated with the 72-78% technical grade material.

Oral Toxicity LD ₅₀ (rats)	2,400 mg/kg	EPA Tox Category	III
Dermal Toxicity LD ₅₀ (rabbits)	> 2000 mg/kg	EPA Tox Category	III

Inhalation Toxicity LC ₅₀ (rats)	6.65 mg/L	EPA Tox Category	IV
Eye Irritation (rabbits)	Significant Irritation/damage	EPA Tox Category	I
Skin Irritation (rabbits)	Corrosive to skin.	EPA Tox Category	I
Skin Sensitization (guinea pigs)	Not a sensitizer	EPA Tox Category	Not applicable

CARCINOGEN CLASSIFICATION

TOXICITY OF LACTOFEN TECHNICAL

SUBCHRONIC: Histopathological changes in the liver, significant changes in clinical chemistry associated with the liver and hematological changes were observed in rats exposed to 1000 ppm of Lactofen Technical for 90 days. The NOEL in this study was 200 ppm. In a 90-day study in mice, the LOEL for Lactofen Technical was 200 ppm based on hematology and clinical chemistry changes, various organ weight effects and histopathological changes of the liver, kidney, thymus, spleen, ovaries and testes.

CHRONIC/CARCINOGENICITY: In an 18-month oncogenicity study in mice a statistically significant increase in liver adenomas and carcinomas was observed at 250 ppm in both sexes. The lowest dose, 10 ppm, was the LOEL with increased liver weight and hepatocytomegally. In a 2-year rat chronic feeding/oncogenicity study liver neoplastic nodules and foci of cellular alteration were observed in both sexes at 2000 ppm. The NOEL for systemic toxicity was 500 ppm based on kidney and liver pigmentation. Research studies indicate that Lactofen Technical is a peroxisome proliferating agent that induces liver tumors through a non-genotoxic mechanism and is unlikely to be carcinogenic to humans at low doses. In a 1-year feeding study of Lactofen Technical with dogs, the NOEL is 200 ppm and the LOEL is 1000/3000 ppm based on renal dysfunction, hematology and clinical chemistry changes.

DEVELOPMENTAL TOXICITY: Pregnant rats were administered oral doses of 15, 50 and 150 mg/kg/day Lactofen Technical on days 6-19 of gestation. Maternal and developmental toxicity were observed at 150 mg/kg/day. The NOEL for this study was 50 mg/kg/day. Two developmental toxicity studies on Lactofen Technical were conducted in rabbits. In the first study, pregnant rabbits were administered oral doses of 5, 15 or 50 mg/kg/day of Lactofen Technical on days 6-18 of gestation. Maternal toxicity and developmental effects were observed at 15 and 50 mg/kg/day. In the second study, pregnant rabbits were exposed to 1, 4 or 20 mg/kg/day oral doses on days 6-18 of gestation. Maternal toxicity was observed at 20 mg/kg/day, while no developmental effects were observed at this dose.

REPRODUCTION: Groups of male and female rats were administered 50, 500 or 2000 ppm of Lactofen Technical continuously for two generations. Adult systemic toxicity and reproductive toxicity were observed at levels of 500 ppm and greater. The NOEL for both systemic and reproductive toxicity was 50 ppm.

MUTAGENICITY: The following mutagenicity studies with Lactofen Technical were negative: unscheduled DNA synthesis, chromosomal aberration, DNA repair assay and one Ames assay. A second Ames assay was positive. Lactofen Technical is not considered a genetic hazard.

TOXICITY OF OTHER INGREDIENTS:

This product contains a solvent. Solvents, when inhaled, can cause nasal and respiratory irritation and central nervous system effects including dizziness, weakness, fatigue, nausea, headache and possibly unconsciousness and even death. Ingestion of solvents can cause gastrointestinal irritation, nausea, vomiting and diarrhea. Prolonged or repeated dermal exposures may cause drying, scaling and even blistering of the skin. Aspiration of low viscosity products can cause chemical pneumonitis which can be fatal. Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Symptoms include fatigue, concentration difficulties, anxiety, depression, rapid mood swings and short-term memory loss. The reports are not clear with regard to the types of solvents that may cause these symptoms, and there is controversy among scientists to whether the condition exists or is caused by this type of product. Since many other diseases cause some or all of these conditions, a doctor should be consulted if any appear. Acute exposure to naphthalene by inhalation, ingestion, and dermal contact has been associated with hemolytic anemia, damage to the kidneys, cataracts, and, in infants, brain damage. There is limited evidence of fetal and maternal toxicity from exposure to naphthalene.

Chronic (long-term) exposure of workers and rodents to naphthalene has been reported to cause cataracts and damage to the retina. Lesions in the kidneys and thymus, signs of anemia, and reduced spleen weights have been observed in rats and mice chronically exposed via gavage. A National Toxicology Program (NTP) report states that lifetime inhalation exposure to naphthalene resulted in increases in tumors of the nose in rats. In another NTP study, lifetime inhalation exposure to naphthalene increased lung tumors in female mice. The relevance of the rodent findings to humans is unknown. Naphthalene has been listed by the International Agency for Research on Cancer (IARC) as possibly carcinogenic to humans (Group 2B).

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:**

The following results were obtained from studies with Lactofen Technical:
LD₅₀ quail: greater than 2510 mg/kg
LC₅₀ duck: greater than 5620 ppm
LC₅₀ quail: greater than 5620 ppm

AQUATIC ORGANISM TOXICITY: The following effects were noted in studies with Lactofen Technical:

96-hour LC₅₀ bluegill sunfish: greater than 100 ppb
96-hour LC₅₀ rainbow trout: greater than 100 ppb
48-hour LC₅₀ Daphnia magna: 2.0 ppm
Fish early life stage toxicity (sheepshead minnow):
MATC (Maximum Allowable Toxicant Concentration) greater than 0.78 ppm but less than 1.6 ppm
The maximum solubility of Lactofen Technical is 100 ppb

Lactofen Technical is practically nontoxic to bees with an acute topical LD₅₀ of greater than 160 µg/bee.

13. DISPOSAL CONSIDERATIONS**END USERS MUST DISPOSE OF ANY UNUSED PRODUCT AS PER THE LABEL RECOMMENDATIONS.**

DISPOSAL METHODS: Check government regulations and local authorities for approved disposal of this material. Dispose in accordance with applicable laws and regulations.

14. TRANSPORTATION INFORMATION

DOT (ground) SHIPPING NAME: NA 1993, Combustible liquid, N.o.s. (Naphthalene), 3 III
REMARKS: In NON-BULK containers (< 119 ga capacity), not regulated for ground transport. See exception 49CFR 173.150(f)
 In containers larger than 200 ga, Naphthalene is Reportable Quantity - add "RQ" to description.
 "Combustible Liquid" is regulated only by US DOT - see 49CFR 173.120(b)

EMERGENCY RESPONSE GUIDEBOOK NO.: 128

ICAO/IATA SHIPPING NAME: Not regulated.
REMARKS: Flash point 142° F = not flammable per UN Model Regulations

IMDG SHIPPING NAME: Not regulated
REMARKS: Flash point 142° F = not flammable per UN Model Regulations

EMS NO.: N/A

15. REGULATORY INFORMATION

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

This material is a pesticide product registered by the EPA under FIFRA and is 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: DANGER**
- **Corrosive - causes irreversible eye damage**
- **Harmful if swallowed, inhaled or absorbed through skin.**
- **Combustible**
- **Avoid contact with eyes, skin and clothing**
- **Do not breathe vapors or spray mist.**
- **Keep out of reach of children**
- **Aspiration hazard, do not induce vomiting.**

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.

Lactofen (2-ethoxy-1-methyl-2-oxoethyl 5-[2-chloro-4-(trifluoromethyl)phenoxy]-2-nitrobenzoate) *	
SARA 313 Chemicals	1.0% de minimis concentration
Naphthalene	
Clean Water Act - Hazardous Substances	Present
Clean Water Act Section 307	Present

SARA 313 Chemicals 0.1% de minimis concentration
 CERCLA Reportable Quantity (RQ): 100 lb (45.4 kg)

Product Reportable Quantity (RQ): 200 gallons (naphthalene RQ = 100 lb)

SARA (311, 312):

Immediate Health: Yes
 Chronic Health: Yes
 Fire: Yes
 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.

Lactofen (2-ethoxy-1-methyl-2-oxoethyl 5-[2-chloro-4-(trifluoromethyl)phenoxy]-2-nitrobenzoate) *

California Proposition 65 carcinogen
 NJ Right To Know 3550

Others

California Proposition 65 Not Listed

Naphthalene

California Proposition 65 carcinogen
 California - Directors List of Hazardous Substances Present
 MA Right To Know Present
 NJ Right To Know 1322 3758
 PA Right To Know Environmental hazard Present
 RI Right To Know Listed
 MN Hazardous Substance Present Carcinogen

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

16. OTHER INFORMATION

REASON FOR ISSUE: Updated bulk shipping information in Section 14. Updated information to meet OSHA Hazcom 2012 (GHS) regulations.
SDS NO.: 0166
EPA REGISTRATION NUMBER: 59639-34
REVISION NUMBER: 1
REVISION DATE: 05/01/2014
SUPERCEDES DATE:
RESPONSIBLE PERSON(S): Valent U.S.A. Corporation, Corporate EH&S, (925) 256-2803

This Safety Data Sheet (SDS) serves different purposes than and DOES NOT REPLACE OR MODIFY THE EPA-APPROVED PRODUCT LABELING (attached to and accompanying the product container). 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, while the labeling provides that information specifically for product use in the ordinary course.

Use, storage and disposal of pesticide products is regulated by the EPA under the authority of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) through the product labeling. All necessary and appropriate precautionary, use, storage, and disposal information is set forth on that labeling. It is a violation of federal law to use a pesticide product in any manner not prescribed on the EPA-approved label.

The information in this SDS is based on data available to us as of the revision date given herein, and believed to be correct. Contact Valent U.S.A. Corporation to confirm if you have the most current SDS.

Judgements as to the suitability of information herein for the individual's own use or purposes are necessarily the individual's own responsibility. Although reasonable care has been taken in the preparation of such information, Valent extends no warranties, makes no representations, and assumes no responsibility as to the accuracy or suitability of such information for application to the individual's purposes or the consequences of its use.

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