

**Material Safety Data Sheet****RICESTAR® HERBICIDE**

MSDS Number: 102000000710

MSDS Version 2.0

Revision Date: 07/23/2009

SECTION 1. CHEMICAL PRODUCT AND COMPANY INFORMATION

Product Name RICESTAR® HERBICIDE
MSDS Number 102000000710
EPA Registration No. 264-682

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 Warning! Harmful if swallowed. Causes substantial but temporary eye injury. Do not get in eyes or on clothing.

Physical State liquid

Odor aromatic

Appearance light yellow to brownish

Routes of Exposure Ingestion, Eye contact, Skin contact, Inhalation

Immediate Effects

Eye Causes substantial but temporary eye injury. Do not get in eyes.

Skin May cause skin irritation. Avoid contact with skin and clothing.

Ingestion Harmful if swallowed. Do not take internally.

Inhalation Avoid breathing spray mist.

Chronic or Delayed Long-Term This product or its components may have target organ effects.

Potential Environmental Effect Toxic to fish. Toxic to oysters and shrimp.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS



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<u>Hazardous Component Name</u>	<u>CAS-No.</u>	<u>Average % by Weight</u>
Fenoxaprop-P-ethyl	71283-80-2	6.70
Isoxadifen-ethyl	163520-33-0	7.51
N-Methyl-2-pyrrolidone	872-50-4	15.00
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	
Naphthalene	91-20-3	6.70
Isotridecanol, ethoxylated	9043-30-5	7.77
Calcium dodecylbenzenesulfonate, branched	70528-83-5	2.10

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	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.
Skin	Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.
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.
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	Systemic: Gastrointestinal disturbance Nausea Vomiting Headache Drowsiness
Hazards	Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard.
Treatment	Treat symptomatically. There is no specific antidote.

SECTION 5. FIRE FIGHTING MEASURES

Flash point	86 °C / 187 °F
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Autoignition Temperature	425 °C / 797 °F
Explosiveness	Not explosive. 92/69/EEC, A.14 / OECD 113
Fire and Explosion Hazards	In the event of fire the following may be released: Carbon monoxide (CO) Nitrogen oxides (NOx) Sulphur oxides Hydrogen chloride (HCl)
Suitable Extinguishing Media	Water spray, Alcohol-resistant foam, Carbon dioxide (CO ₂), Dry powder
Fire Fighting Instructions	Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Do not allow run-off from fire fighting to enter drains or water courses. In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions	Remove all sources of ignition. Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces.
Methods for cleaning up	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder). Collect and transfer the product into a properly labelled and tightly closed container.
Additional Advice	Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal. Do not allow product to contact vegetation.

SECTION 7. HANDLING AND STORAGE

Handling Procedures	Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. Keep away from heat and sources of ignition. Take measures to prevent the build up of electrostatic charge.
Storing Procedures	Store in a cool, dry place and in such a manner as to prevent cross contamination with other pesticides, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area. The 30-day storage temperature average must not exceed the recommended maximum.



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Keep away from food, drink and animal feedingstuffs.

Work/Hygienic Procedures

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. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

Min/Max Storage Temperatures

Recommended minimum transport/storage temperature: 0 °C / 32 °F
Recommended maximum transport/storage temperature: 40 °C / 104 °F

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

General Protection

Avoid contact with skin and eyes.

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 wash facility and safety shower should be available.

Follow all label instructions. Train employees in safe use of the product.

Eye/Face Protection

Tightly fitting safety goggles

Hand protection

Chemical-resistant gloves made of waterproof material such as neoprene, butyl rubber, barrier laminate or nitrile rubber.

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

Fenoxaprop-P-ethyl	71283-80-2	OES BCS*		2.6 mg/m3
Isoxadifen-ethyl	163520-33-0	OES BCS*		1 mg/m3
N-Methyl-2-pyrrolidone	872-50-4	WEEL	TWA	10 ppm
		TX ESL	ST ESL	800 ug/m3
		TX ESL	AN ESL	80 ug/m3
		TX ESL	ST ESL	460 ppm
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5			
		TX ESL	AN ESL	46 ppm
Naphthalene	91-20-3	ACGIH	TWA	10 ppm
		ACGIH	STEL	15 ppm



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NIOSH	REL	10 ppm
NIOSH	STEL	15 ppm
OSHA Z1	PEL	10 ppm
OSHA Z1A	TWA	10 ppm
OSHA Z1A	STEL	15 ppm
US CA OEL	TWA PEL	10 ppm
US CA OEL	STEL	15 ppm
TX ESL	ST ESL	440 ug/m3
TX ESL	AN ESL	44 ug/m3
	TWA	10 ppm
	STEL	15 ppm

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

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	light yellow to brownish
Physical State	liquid
Odor	aromatic
pH	6 - 8 (10 %) at 23 °C
Specific Gravity	1.04 at 20 °C
Density	approx. 1.03 g/cm ³ at 20 °C
Water solubility	emulsifiable
Partition coefficient: n-octanol/water	19,100 - 38,000 log Pow: 4.28 - 4.58
Viscosity	approx. 16.9 mPa.s at 20 °C

SECTION 10. STABILITY AND REACTIVITY

Conditions to Avoid	Extremes of temperature and direct sunlight.
Hazardous Reactions	No hazardous reactions when stored and handled according to prescribed instructions.
Chemical Stability	Stable under recommended storage conditions.



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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, fenoxaprop-p-ethyl, as well as, the herbicide safener, isoxadifen-ethyl.

Acute Oral Toxicity	male/female combined rat: LD50: 4,430 mg/kg
Acute Dermal Toxicity	male/female combined rat: LD50: > 5,000 mg/kg
Acute Inhalation Toxicity	male/female combined rat: LC50: > 5.32 mg/l Exposure time: 4 h Determined in the form of liquid aerosol. (actual)
	male/female combined rat: LC50: > 21.28 mg/l Exposure time: 1 h Determined in the form of liquid aerosol. Extrapolated from the 4 hr LC50. (actual)
Skin Irritation	rabbit: Slight irritation.
Eye Irritation	rabbit: Severe eye irritation.
Sensitization	guinea pig: Non-sensitizing.
Chronic Toxicity	Fenoxaprop-p-ethyl caused liver and/or adrenal effects in long-term dietary studies in rats, mice and dogs.
	Isoxadifen-ethyl caused kidney and/or liver effects in chronic studies in rats and dogs.

Assessment Carcinogenicity

Fenoxaprop-p-ethyl caused liver and adrenal gland tumors at the highest dose tested in mice. However, there was no evidence of carcinogenicity in a combined chronic/carcinogenicity study in rats treated with Fenoxaprop-P-Ethyl.

Isoxadifen-ethyl was not carcinogenic in oncogenicity studies in rats and mice.

ACGIH

Naphthalene

91-20-3

Group A4

NTP

Naphthalene

91-20-3

IARC

Naphthalene

91-20-3

Overall evaluation: 2B

OSHA

None.



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Reproductive toxicity

REPRODUCTION:

Fenoxaprop-p-ethyl was not a reproductive toxicant in a two-generation study in rats.

Isoxadifen-ethyl was not considered a primary reproductive toxicant. Decreased pup body weights occurred causing a delay in sexual maturation, however, these effects were considered secondary to maternal toxicity.

DEVELOPMENTAL TOXICITY:

Fenoxaprop-p-ethyl is not a primary developmental toxicant in rats and rabbits. Developmental effects were observed in both species but were considered secondary to maternal toxicity.

Isoxadifen-ethyl was not a developmental toxicant in rats and rabbits.

Neurotoxicity

Fenoxaprop-p-ethyl neurotoxicity studies are not required at this time.

Isoxadifen-ethyl did not demonstrate the potential to cause neurotoxicity in standard toxicity studies using mice, rats, rabbits and dogs.

Mutagenicity

Fenoxaprop-p-ethyl was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Isoxadifen-ethyl was not genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity to Fish

Rainbow trout (*Oncorhynchus mykiss*)
LC50: 2.7 mg/l
Exposure time: 96 h

Lepomis macrochirus (Bluegill sunfish)
LC50: 3 mg/l
Exposure time: 96 h

Toxicity to Aquatic Plants

Pseudokirchneriella subcapitata
EC50: 9.8 mg/l
Exposure time: 72 h

Acute Toxicity to Aquatic Invertebrates

Water flea (*Daphnia magna*)
EC50: 3.6 mg/l
Exposure time: 48 h

Toxicity to other organisms

Colinus virginianus (Bobwhite quail)
LD50: > 2,000 mg/kg

Stability in water



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Environmental Precautions

Apply this product as specified on the label. Do not allow to get into surface water, drains and ground water. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.

SECTION 13. DISPOSAL CONSIDERATIONS

General Disposal Guidance

Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency, or the Hazardous Waste representative at the nearest EPA Regional Office for guidance. Dispose in accordance with all local, state/provincial and federal regulations.

Container Disposal

Triple rinse containers. Completely empty container into application equipment, then dispose of empty container in a sanitary landfill, by incineration or by other procedures approved by state/provincial and local authorities. If burned, stay out of smoke. Follow advice on product label and/or leaflet.

SECTION 14. TRANSPORT INFORMATION

DOT CLASSIFICATION:

Not regulated for Domestic Surface Transportation

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. 264-682

US Federal Regulations

TSCA list

Isoxadifen-ethyl	163520-33-0
N-Methyl-2-pyrrolidone	872-50-4
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5
Naphthalene	91-20-3
Isotridecanol, ethoxylated	9043-30-5
Calcium dodecylbenzenesulfonate, branched	70528-83-5

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

Naphthalene 91-20-3

SARA Title III - Section 302 - Notification and Information

None.

SARA Title III - Section 313 - Toxic Chemical Release Reporting

N-Methyl-2-pyrrolidone	872-50-4	1.0%
Naphthalene	91-20-3	0.1%

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US States Regulatory Reporting**CA Prop65**

This product contains a chemical known to the State of California to cause cancer.

Naphthalene 91-20-3

This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

N-Methyl-2-pyrrolidone 872-50-4 Developmental toxin.

US State Right-To-Know Ingredients

N-Methyl-2-pyrrolidone	872-50-4	MN, NJ
Naphthalene	91-20-3	CA, CT, IL, MN, NJ, PA, RI

Canadian Regulations**Canadian Domestic Substance List**

N-Methyl-2-pyrrolidone	872-50-4
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5
Naphthalene	91-20-3
Isotridecanol, ethoxylated	9043-30-5
Calcium dodecylbenzenesulfonate, branched	70528-83-5

Environmental**CERCLA**

Naphthalene 91-20-3 100 lbs

Clean Water Section 307 Priority Pollutants

None.

Safe Drinking Water Act Maximum Contaminant Levels

None.

International Regulations**European Inventory of Existing Commercial Substances (EINECS)**

N-Methyl-2-pyrrolidone	872-50-4
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5
Naphthalene	91-20-3

SECTION 16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

Health - 2 Flammability - 2 Reactivity - 0 Others - none

0 = minimal hazard, 1 = slight hazard, 2 = moderate hazard, 3 = severe hazard, 4 = extreme hazard

Reason to Revise: Updated due to new system and numbering scheme. Updated for general editorial purposes.

Revision Date: 07/23/2009

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

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