



RICESTAR® HT HERBICIDE

Version 3.0 / USA
102000008377

1/13
Revision Date: 08/20/2015
Print Date: 08/20/2015

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

Product identifier

Trade name RICESTAR® HT HERBICIDE

Product code (UVP) 06277918

SDS Number 102000008377

EPA Registration No. 264-682

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
2 T.W. Alexander Drive
Research Triangle PK, NC 27709
United States

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

Reproductive toxicity: Category 1B

Carcinogenicity, Specific target organ toxicity - repeated exposure(Oral): Category 2

Flammable liquids: Category 4



Signal word: Danger

Hazard statements

May be fatal if swallowed and enters airways.

May damage fertility or the unborn child.

Suspected of causing cancer.



RICESTAR® HT HERBICIDE

Version 3.0 / USA
102000008377

2/13
Revision Date: 08/20/2015
Print Date: 08/20/2015

May cause damage to organs (kidneys) through prolonged or repeated exposure.

Combustible liquid

Precautionary statements

Obtain special instructions before use.

Do not handle until all safety precautions have been read and understood.

Wear protective gloves/protective clothing/eye protection/face protection.

Do not breathe spray.

Keep away from open flames/hot surfaces. - No smoking.

IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician.

Do NOT induce vomiting.

IF exposed or concerned: Get medical advice/ attention.

Get medical advice/attention if you feel unwell.

In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

Store locked up.

Store in a well-ventilated place. Keep cool.

Dispose of contents/container in accordance with local regulation.

Other hazards

No other hazards known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Component Name	CAS-No.	Concentration % by weight
Fenoxaprop-P-ethyl	71283-80-2	6.7
Isoxadifen-ethyl	163520-33-0	3.75
N-Methyl-2-pyrrolidone	872-50-4	15.0
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	53.8
Naphthalene	91-20-3	7.5
Alcohols, C11-14-iso-, C13-rich, ethoxylated	78330-21-9	7.8
Benzenesulfonic acid, mono-C11-13-branched alkyl derivs., calcium salts	68953-96-8	2.1

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.

Skin contact

Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

Eye contact

Hold eye open and rinse slowly and gently with water for 15-20 minutes.



RICESTAR® HT HERBICIDE

Version 3.0 / USA
102000008377

3/13
Revision Date: 08/20/2015
Print Date: 08/20/2015

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 To date no symptoms are known.

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. There is no specific antidote.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Dry chemical, Carbon dioxide (CO₂), Foam, Water

Unsuitable None known.

Special hazards arising from the substance or mixture Dangerous gases are evolved in the event of a fire.

Advice for firefighters

Special protective equipment for fire-fighters Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing.

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.

Flash point 91.1 °C

Autoignition temperature no data available

Lower explosion limit no data available

Upper explosion limit no data available

Explosivity not applicable



RICESTAR® HT HERBICIDE

Version 3.0 / USA
102000008377

4/13
Revision Date: 08/20/2015
Print Date: 08/20/2015

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions Isolate hazard area. Keep unauthorized people away. Avoid contact with spilled product or contaminated surfaces. Remove all sources of ignition.

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. Contaminated soil may have to be removed and disposed. Clean contaminated floors and objects thoroughly, observing environmental regulations.

Additional advice Use personal protective equipment. Do not allow to enter soil, waterways or waste water canal. Do not allow product to contact non-target plants.

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.

Advice on protection against fire and explosion Keep away from heat and sources of ignition.

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.
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.

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.



RICESTAR® HT HERBICIDE

Version 3.0 / USA
102000008377

5/13
Revision Date: 08/20/2015
Print Date: 08/20/2015

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Fenoxaprop-P-ethyl	71283-80-2	2.6 mg/m3 (TWA)		OES BCS*
Isoxadifen-ethyl	163520-33-0	1 mg/m3 (TWA)		OES BCS*
N-Methyl-2-pyrrolidone	872-50-4	100ppb (ST ESL)	07 2011	TX ESL
N-Methyl-2-pyrrolidone	872-50-4	10ppb (AN ESL)	07 2011	TX ESL
N-Methyl-2-pyrrolidone	872-50-4	40ug/m3 (AN ESL)	07 2011	TX ESL
N-Methyl-2-pyrrolidone	872-50-4	400ug/m3 (ST ESL)	07 2011	TX ESL
N-Methyl-2-pyrrolidone	872-50-4	875 mg/m3/250 ppm (STEL)	10 2014	US CA OEL
N-Methyl-2-pyrrolidone	872-50-4	4 mg/m3/1 ppm (TWA PEL)	10 2014	US CA OEL
N-Methyl-2-pyrrolidone	872-50-4	40 mg/m3/10 ppm (TWA)	2010	WEEL
N-Methyl-2-pyrrolidone	872-50-4	19 ppm (TWA)		OES BCS*
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	2560ug/m3 (ST ESL)	07 2011	TX ESL
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	460ppb (ST ESL)	07 2011	TX ESL
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	256ug/m3 (AN ESL)	07 2011	TX ESL
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	46ppb (AN ESL)	07 2011	TX ESL
Solvent Naphtha (petroleum), heavy aromatic	64742-94-5	1,600 mg/m3/400 ppm (TWA PEL)	08 2010	US CA OEL
Naphthalene	91-20-3	10 ppm (TWA)	02 2012	ACGIH
Naphthalene	91-20-3	50 mg/m3/10 ppm (REL)	2010	NIOSH
Naphthalene	91-20-3	75 mg/m3/15 ppm (STEL)	2010	NIOSH
Naphthalene	91-20-3	50 mg/m3/10 ppm (PEL)	02 2006	OSHA Z1
Naphthalene	91-20-3	75 mg/m3/15 ppm (STEL)	1989	OSHA Z1A
Naphthalene	91-20-3	50 mg/m3/10 ppm (TWA)	1989	OSHA Z1A
Naphthalene	91-20-3	50 mg/m3/10 ppm	06 2008	TN OEL



RICESTAR® HT HERBICIDE

Version 3.0 / USA
102000008377

6/13
Revision Date: 08/20/2015
Print Date: 08/20/2015

		(TWA)		
Naphthalene	91-20-3	75 mg/m3/15 ppm (STEL)	06 2008	TN OEL
Naphthalene	91-20-3	50ug/m3 (AN ESL)	07 2011	TX ESL
Naphthalene	91-20-3	200ug/m3 (ST ESL)	02 2013	TX ESL
Naphthalene	91-20-3	38ppb (ST ESL)	02 2013	TX ESL
Naphthalene	91-20-3	10ppb (AN ESL)	07 2011	TX ESL
Naphthalene	91-20-3	0.5 mg/m3/0.1 ppm (TWA PEL)	10 2014	US CA OEL
Naphthalene	91-20-3	10 ppm (TWA)		OES BCS*

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

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.

Hand protection

Chemical resistant gloves made of waterproof material such as polyethylene or polyvinyl chloride

Eye protection

Tightly fitting safety goggles

Skin and body protection

Wear long-sleeved shirt and long pants and shoes plus socks.

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.

Eye wash facility and safety shower should be available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance light yellow

Physical State Liquid

Odor aromatic



RICESTAR® HT HERBICIDE

Version 3.0 / USA
10200008377

7/13
Revision Date: 08/20/2015
Print Date: 08/20/2015

Odour Threshold	no data available
pH	5.0 - 7.0 at 1 % (23 °C) (deionized water)
Vapor Pressure	no data available
Vapor Density (Air = 1)	no data available
Density	ca. 1.03 g/cm ³ at 20 °C
Evapouration rate	no data available
Boiling Point	no data available
Melting / Freezing Point	no data available
Water solubility	emulsifiable
Minimum Ignition Energy	not applicable
Decomposition temperature	no data available
Partition coefficient: n-octanol/water	19,100 - 38,000 log Pow: 4.28 - 4.58
Viscosity	16.9 mPa.s at 20 °C
Flash point	91.1 °C
Autoignition temperature	no data available
Lower explosion limit	no data available
Upper explosion limit	no data available
Explosivity	not applicable
Other information	Further safety related physical-chemical data are not known.

SECTION 10: STABILITY AND REACTIVITY

Reactivity

Thermal decomposition	no data available
Chemical stability	Stable under normal 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 materials	Acids, Oxidizing agents
Hazardous decomposition products	No decomposition products expected under normal conditions of use.



RICESTAR® HT HERBICIDE

Version 3.0 / USA
102000008377

8/13
Revision Date: 08/20/2015
Print Date: 08/20/2015

SECTION 11: TOXICOLOGICAL INFORMATION

Exposure routes Ingestion, Eye contact, Skin contact, Inhalation

Immediate Effects

Eye Causes substantial but temporary eye injury.

Skin May cause skin irritation.

Ingestion Harmful if swallowed.

Information on toxicological effects

Acute oral toxicity LD50 (male/female combined rat) 4,430 mg/kg

Acute inhalation toxicity LC50 (male/female combined rat) > 5.32 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.

Acute dermal toxicity LD50 (male/female combined rat) > 5,000 mg/kg

Skin irritation Slight irritation (rabbit)

Eye irritation Severe eye irritation. (rabbit)

Sensitisation Non-sensitizing. (guinea pig)

Assessment repeated dose toxicity

Fenoxaprop-P-ethyl did not cause specific target organ toxicity in rats. Fenoxaprop-P-ethyl caused specific target organ toxicity in experimental animal studies in mice in the following organ(s): kidneys. Isoxadifen-ethyl did not cause specific target organ toxicity in experimental animal studies.

Assessment mutagenicity

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

Assessment carcinogenicity

Fenoxaprop-P-ethyl demonstrated no carcinogenic potential in a lifetime feeding study in rats. Fenoxaprop-P-ethyl caused an increased incidence of liver tumours in mice at high doses. Fenoxaprop-P-ethyl causes tumours through peroxisome proliferation. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans. Isoxadifen-ethyl was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH

Naphthalene 91-20-3 Group A3

NTP

Naphthalene 91-20-3

IARC

Naphthalene 91-20-3 Overall evaluation: 2B

OSHA

None.



RICESTAR® HT HERBICIDE

Version 3.0 / USA
102000008377

9/13
Revision Date: 08/20/2015
Print Date: 08/20/2015

Assessment toxicity to reproduction

Fenoxaprop-P-ethyl did not cause reproductive toxicity in a two-generation study in rats.
Isoxadifen-ethyl did not cause reproductive toxicity in a two-generation study in rats.

Assessment developmental toxicity

Fenoxaprop-P-ethyl did not cause developmental toxicity in rats and rabbits.
Isoxadifen-ethyl did not cause developmental toxicity in rats and rabbits.

Further information

Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).

SECTION 12: ECOLOGICAL INFORMATION

Toxicity to fish

LC50 (Oncorhynchus mykiss (rainbow trout)) 0.39 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient fenoxaprop-P-ethyl.
LC50 (Lepomis macrochirus (Bluegill sunfish)) 0.19 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient fenoxaprop-P-ethyl.
LC50 (Lepomis macrochirus (Bluegill sunfish)) 0.22 mg/l
Exposure time: 96 h
The value mentioned relates to isoxadifen-ethyl.

Chronic toxicity to fish

Oncorhynchus mykiss (rainbow trout)
NOEC: 0.036 mg/l
Exposure time: 91 d
The value mentioned relates to the active ingredient fenoxaprop-P-ethyl.

Toxicity to aquatic invertebrates

EC50 (Daphnia magna (Water flea)) > 1.058 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient fenoxaprop-P-ethyl.
No acute toxicity was observed at its limit of water solubility.
EC50 (Daphnia magna (Water flea)) > 0.51 mg/l
Exposure time: 48 h
The value mentioned relates to isoxadifen-ethyl.
No acute toxicity was observed at its limit of water solubility.

Chronic toxicity to aquatic invertebrates

NOEC (Daphnia (water flea)): 0.22 mg/l
Exposure time: 21 d
The value mentioned relates to the active ingredient fenoxaprop-P-ethyl.

Toxicity to aquatic plants

EC50 (Raphidocelis subcapitata (freshwater green alga)) 0.54 mg/l
Biomass; Exposure time: 72 h
The value mentioned relates to the active ingredient fenoxaprop-P-ethyl.
IC50 (Raphidocelis subcapitata (freshwater green alga)) > 1.26 mg/l
Growth rate; Exposure time: 72 h



RICESTAR® HT HERBICIDE

Version 3.0 / USA
102000008377

10/13
Revision Date: 08/20/2015
Print Date: 08/20/2015

	The value mentioned relates to isoxadifen-ethyl. No acute toxicity was observed at its limit of water solubility.
Biodegradability	Fenoxaprop-P-ethyl: not rapidly biodegradable Isoxadifen-ethyl: not rapidly biodegradable
Koc	Fenoxaprop-P-ethyl: Koc: 11354 Isoxadifen-ethyl: Koc: 2512
Bioaccumulation	Fenoxaprop-P-ethyl: Bioconcentration factor (BCF) 338 Does not bioaccumulate. Isoxadifen-ethyl: Does not bioaccumulate.
Mobility in soil	Fenoxaprop-P-ethyl: Immobile in soil Isoxadifen-ethyl: Slightly mobile in soils
Additional ecological information	No other effects to be mentioned.
Environmental precautions	Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Apply this product as specified on the label.

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Product	Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal Law. Dispose in accordance with all local, state/provincial and federal regulations.
Contaminated packaging	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.
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
UN number

3082



RICESTAR® HT HERBICIDE

Version 3.0 / USA
102000008377

11/13
Revision Date: 08/20/2015
Print Date: 08/20/2015

Class 9
Packaging group III
Marine pollutant Marine pollutant
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCES, LIQUID,
N.O.S.
(FENOXAPROP-P-ETHYL, NAPHTHALENE)
RQ Reportable Quantity is reached with 1,333 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.
(FENOXAPROP-P-ETHYL SOLUTION)

IATA

UN number **3082**
Class 9
Packaging group III
Environm. Hazardous Mark YES
Proper shipping name ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID,
N.O.S.
(FENOXAPROP-P-ETHYL 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.

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 64742-94-5
aromatic
Naphthalene 91-20-3
Alcohols, C11-14-iso-, C13-rich, 78330-21-9
ethoxylated
Benzenesulfonic acid, mono-C11-13- 68953-96-8
branched alkyl derivs., calcium salts



RICESTAR® HT HERBICIDE

Version 3.0 / USA
102000008377

12/13
Revision Date: 08/20/2015
Print Date: 08/20/2015

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

Isoxadifen-ethyl 163520-33-0

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

Naphthalene 91-20-3

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, RI

Naphthalene 91-20-3 CA, CT, IL, MN, NJ, RI

Canadian Regulations

Canadian Domestic Substance List

None.

Environmental

CERCLA

Naphthalene 91-20-3 100 lbs

Clean Water Section 307 Priority Pollutants

Naphthalene 91-20-3

Safe Drinking Water Act Maximum Contaminant Levels

N-Methyl-2-pyrrolidone 872-50-4

Naphthalene 91-20-3

EPA/FIFRA Information:

This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification 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: Warning!

Hazard statements: Harmful if swallowed.
Causes substantial but temporary eye injury.
Do not get in eyes or on clothing.

SECTION 16: OTHER INFORMATION

Abbreviations and acronyms



RICESTAR® HT HERBICIDE

Version 3.0 / USA
102000008377

13/13
Revision Date: 08/20/2015
Print Date: 08/20/2015

49CFR	Code of Federal Regulations, Title 49
ACGIH	US. ACGIH Threshold Limit Values
CAS-Nr.	Chemical Abstracts Service number
EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
IARC	US. IARC Monographs on Occupational Exposures to Chemical Agents
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 - 2 Flammability - 2 Instability - 0 Others - none

HMIS (Hazardous Materials Identification System, based on the Third Edition Ratings Guide)

Health - 2 Flammability - 2 Physical Hazard - 0 PPE -

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

Reason for Revision: Revised according to the current OSHA Hazard Communication Standard (29CFR1910.1200)

Revision Date: 08/20/2015

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.