

MARENGO® G

EPA Registration Number: 432-1523-59807

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable: Water spray, Carbon dioxide (CO2), Dry powder, Foam

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: not applicable

Autoignition temperature: no data available

Lower explosion limit: not applicable

Upper explosion limit: not applicable

Explosivity: no data available

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Precautions: Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

Methods and materials for containment and cleaning up

Methods for cleaning up: Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. 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 nontarget 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.

7. HANDLING AND STORAGE

Precautions for safe handling

Advice on safe handling: Maintain exposure levels below the exposure limit through the use of general and local exhaust ventilation. Handle and open container in a manner as to prevent spillage.

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.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Indaziflam	950782-86-2	0.14 mg/m3 (TWA)		OES BCS*
Hexylene glycol	107-41-5	25 ppm (CEILING)	02 2012	ACGIH
Hexylene glycol	107-41-5	125 mg/m3/25 ppm (Ceil_Time)	2010	NIOSH
Hexylene glycol	107-41-5	125 mg/m3/25 ppm (CEILING)	1989	OSHA Z1A
Hexylene glycol	107-41-5	125 mg/m3/25 ppm (CEILING)	06 2008	TN OEL
Hexylene glycol	107-41-5	120ug/m3 (AN ESL)	07 2011	TX ESL
Hexylene glycol	107-41-5	25ppb (AN ESL)	07 2011	TX ESL

Control parameters chart continued next page

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Control parameters chart continued

Components	CAS-No.	Control parameters	Update	Basis
Hexylene glycol	107-41-5	250ppb (ST ESL)	07 2011	TX ESL
Hexylene glycol	107-41-5	1200ug/m3 (ST ESL)	07 2011	TX ESL
Hexylene glycol	107-41-5	125 mg/m3/25 ppm (CEILING)	08 2010	US CA OEL
Bentonite (Particulate.)	1302-78-9	5UG/M3 (AN ESL)	02 2013	TX ESL
Bentonite (Particulate.)	1302-78-9	50UG/M3 (ST ESL)	02 2013	TX ESL

*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 nitrile rubber gloves

Eye protection : Safety glasses with side-shields

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : grey to tan

Physical State : granular

Odor : characteristic

Odour Threshold : no data available

PHYSICAL AND CHEMICAL PROPERTIES continued

pH : ca. 4 - 7 at 10%

Vapor Pressure : no data available

Vapor Density (Air = 1) : no data available

Bulk density : 45 - 55 lb/ft³

Evaporation rate : not applicable

Boiling Point : not applicable

Melting / Freezing Point : not applicable

Water solubility : dispersible

Minimum Ignition Energy : no data available

Decomposition

temperature : no data available

Partition coefficient:

n-octanol / water : no data available

Viscosity : not applicable

Flash point : not applicable

Autoignition temperature : no data available

Lower explosion limit : not applicable

Upper explosion limit : not applicable

Explosivity : no data available

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 : no data available

Incompatible materials : no data available

Hazardous decomposition products

.....: No decomposition products expected under normal conditions of use.

PHYSICAL AND CHEMICAL PROPERTIES continued next column

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11. TOXICOLOGICAL INFORMATION

Exposure routes: Inhalation, Eye contact, Skin contact, Ingestion

Immediate Effects

Eye: May cause mild irritation to eyes.

Skin: May cause mild irritation to the skin.

Inhalation: May be harmful if inhaled.

Information on toxicological effects

Acute oral toxicity LD50 (rat) > 5,000 mg/kg

Acute inhalation toxicity LC50 (rat) > 2.09 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.

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

Skin irritation Slight irritation (rabbit)

Eye irritation Minimally irritating. (rabbit)

Sensitisation Non-sensitizing. (guinea pig)

Assessment repeated dose toxicity
Indaziflam caused neurobehavioral effects and/or neuropathological changes in subchronic studies in rats and dogs.

Assessment Mutagenicity
Indaziflam was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

Assessment Carcinogenicity
Indaziflam was not carcinogenic in lifetime feeding studies in rats and mice.

ACGIH: None.

NTP: None.

IARC: None.

OSHA: None.

Assessment toxicity to reproduction
Indaziflam caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Indaziflam is related to parental toxicity.

Assessment developmental toxicity
Indaziflam did not cause developmental toxicity in rats and rabbits.

TOXICOLOGICAL INFORMATION continued next column

TOXICOLOGICAL INFORMATION continued

Further information
Acute toxicity studies have been bridged from a similar formulation(s).
The non-acute information pertains to the active ingredient(s).

12. ECOLOGICAL INFORMATION

Toxicity to fish LC50 (Oncorhynchus mykiss (rainbow trout)) 0.572 mg/l
Exposure time: 96 h
The value mentioned relates to the active ingredient indaziflam.

Toxicity to aquatic invertebrates EC50 (Daphnia magna (Water flea)) > 9.88 mg/l
Exposure time: 48 h
The value mentioned relates to the active ingredient indaziflam.

Toxicity to aquatic plants IC50 (Pseudokirchneriella subcapitata) 0.134 mg/l
Growth rate; Exposure time: 96 h
The value mentioned relates to the active ingredient indaziflam.

Toxicity to other organisms LD50 (Eisenia fetida (earthworms)) > 1,000 mg/kg
Exposure time: 14 d
The value mentioned relates to the active ingredient indaziflam.

Biodegradability Indaziflam: not rapidly biodegradable

Koc Indaziflam: Koc: 496

Bioaccumulation Indaziflam: Bioconcentration factor (BCF) 66; Does not bioaccumulate.

Mobility in soil Indaziflam: Moderately mobile in soils.

Environmental precautions
Do not allow to get into surface water, drains and ground water. 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.

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13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Product: Pesticide, spray mixture or rinse water that cannot be used according to label instructions may be disposed of on site or at an approved waste disposal facility.

Dispose in accordance with all local, state/provincial and federal regulations.

Contaminated packaging . . . : Do not re-use empty 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.

14. TRANSPORT INFORMATION

According to national and international transport regulations this material is not classified as dangerous goods / hazardous material.

15. REGULATORY INFORMATION

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US Federal Regulations

TSCA list: Propyl-S-(-)-2-Hydroxy
Propionate 53651-69-7
Hexylene glycol 107-41-5

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.

REGULATORY INFORMATION *continued*

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: Hexylene glycol 107-41-5
CA, MN

Canadian Regulations

**Canadian Domestic
Substance List**: None.

Environmental

CERCLA: None.

Clean Water Section 307

Priority Pollutants: None.

Safe Drinking Water Act Maximum

Contaminant Levels: None.

16. OTHER INFORMATION

NFPA 704 (National Fire Protection Association):

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

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

Health - 1 Flammability - 1 Physical Hazard - 0 PPE -

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

Reason for Revision: The following sections have been revised: Section 3: Composition / Information on Ingredients. Section 8: Exposure Controls / Personal Protection.

Revision Date: 12/02/2014

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.

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REGULATORY INFORMATION *continued next column*

SAFETY DATA SHEET

Rev. Date: 12/02/2014
MSDS Date: 02/20/2015

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