



# SAFETY DATA SHEET

Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH) Annex II

## Reflect

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## Section 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1. Product identifier

#### Reflect

Pure substance/mixture

Mixture

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use

Fungicide

Uses advised against

No information available

### 1.3. Details of the supplier of the safety data sheet

Supplier Address

ADAMA Agricultural Solutions UK Ltd  
Unit 15, Thatcham Buisness Village Colthrop Way,  
Thatcham Berkshire RG19 4LW, UK : 01635 860555  
Fax: 01635 861555

For further information, please contact

Email address

ukenquiries@adama.com

### 1.4. Emergency telephone number

Emergency Telephone

National Chemical Emergency Centre (UK):  
Tel: 01865 407333 (24 hours)

## Section 2: HAZARDS IDENTIFICATION

### 2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Acute toxicity - Oral	Category 4 - (H302)
Acute toxicity - Inhalation	Category 4 - (H332)
(Dusts/Mists)	
Serious eye damage/eye irritation	Category 2 - (H319)
Reproductive Toxicity	Category 2 - (H361d)
Acute aquatic toxicity	Category 1 - (H400)
Hazardous to the Aquatic	Category 1 - (H410)
Environment - Chronic Hazard	

### 2.2. Label elements

**Labeling according to Regulation (EC) No. 1272/2008 [CLP]**

**Hazard pictograms**



**Signal word**

Warning

**Hazard Statements**

H302 - Harmful if swallowed  
H319 - Causes serious eye irritation  
H332 - Harmful if inhaled  
H361d - Suspected of damaging the unborn child  
H410 - Very toxic to aquatic life with long lasting effects

**Precautionary Statements**

P102 - Keep out of reach of children  
P201 - Obtain special instructions before use  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray  
P270 - Do not eat, drink or smoke when using this product  
P280 - Wear protective gloves/protective clothing/eye protection/face protection  
P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing  
P501 - Dispose of contents/ container to an approved waste disposal plant

**EU Specific Hazard Statements**

EUH401 - To avoid risks to human health and the environment, comply with the instructions for use

**Additional phrases for PPP**

EUH208 - Contains Isopyrazam. May produce an allergic reaction  
SP1 - Do not contaminate water with the product or its container (Do not clean application equipment near surface water/Avoid contamination via drains from farmyards and roads).

**2.3. Other hazards**

No information available

**Section 3: COMPOSITION/INFORMATION ON INGREDIENTS**

**3.2 Mixture**

Chemical Name	Weight-%	CAS No	EC No	Index No	Classification according to Regulation (EC) No. 1272/2008 [CLP]	M-Factor	REACH Registration Number
Isopyrazam	11-15	881685-58-1	632-619-2	-	Skin Sens. 1B (H317) Repr. 2 (H361d) Aquatic Acute 1 (H400) Aquatic Chronic 1 (H410)	M=1 M=10	-
Reaction mass of N,N-Dimethyloctan-1-amine and N,N-Dimethyldecan-1-amine	40-45	N/A	909-125-3	-	Skin Irrit. 2 (H315) Eye Dam. 1 (H318)		01-2119974115-37-0001
Benzenesulfonic acid, C10-13-(linear)alkyl derivs., calcium salt	1-2	N/A	932-231-6	-	Skin Irrit. 2 (H315) Eye Dam. 1 (H318) Aquatic Chronic 3 (H412)		01-2119560592-37-XXXX
2-Ethylhexan-1-ol	1-2	104-76-7	203-234-3	-	Acute Tox. 4 (H332) Skin Irrit. 2 (H315)		01-2119487289-20

					Eye Irrit. 2 (H319) STOT SE 3 (H335)		
Poly(oxy-1,2-ethanediyl), .alpha.-[tris(1-phenylethyl)phenyl]-.omega.-hydroxy-	1-2	99734-09-5	-	-	Aquatic Chronic 3 (H412)		-

Full text of H- and EUH-phrases: see section 16

## Section 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

<b>General advice</b>	In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). First aider: Pay attention to self-protection!.
<b>Inhalation</b>	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician.
<b>Skin Contact</b>	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
<b>Eye contact</b>	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. Call a physician immediately.
<b>Ingestion</b>	Rinse mouth. Drink plenty of water. Call a physician immediately.
<b>Self-protection of the first aider</b>	Use personal protective equipment as required.

### 4.2. Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	None known
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### 4.3. Indication of any immediate medical attention and special treatment needed

<b>Note to physicians</b>	Treat symptomatically.
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## Section 5: FIRE-FIGHTING MEASURES

### 5.1. Extinguishing media

#### Suitable Extinguishing Media

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

#### Unsuitable Extinguishing Media

No information available.

### 5.2. Special hazards arising from the substance or mixture

No specific hazard known.

### 5.3. Advice for firefighters

In the event of fire, wear self-contained breathing apparatus  
In the event of fire and/or explosion do not breathe fumes.

## Section 6: ACCIDENTAL RELEASE MEASURES

## 6.1. Personal precautions, protective equipment and emergency procedures

### **Personal precautions**

Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak. Use personal protective equipment as required.

### **For emergency responders**

Use personal protection recommended in Section 8.

## 6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

## 6.3. Methods and material for containment and cleaning up

Take up mechanically, placing in appropriate containers for disposal.

## 6.4. Reference to other sections

### **Other Information**

See also section 8,13

## **Section 7: HANDLING AND STORAGE**

### 7.1. Precautions for safe handling

#### **Advice on safe handling**

Use only with adequate ventilation.

#### **General Hygiene Considerations**

Handle in accordance with good industrial hygiene and safety practice.

### 7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

### 7.3. Specific end use(s)

#### **Risk Management Methods (RMM)**

The information required is contained in this Material Safety Data Sheet.

## **Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### 8.1. Control parameters

Chemical Name	European Union	United Kingdom	France	Spain	Germany
2-Ethylhexan-1-ol 104-76-7					TWA: 10 ppm TWA: 54 mg/m <sup>3</sup> Ceiling / Peak: 10 ppm Ceiling / Peak: 54 mg/m <sup>3</sup> TWA: 20 ppm TWA: 110 mg/m <sup>3</sup>
Chemical Name	Austria	Switzerland	Poland	Norway	Ireland
2-Ethylhexan-1-ol 104-76-7	Skin STEL 100 ppm STEL 540 mg/m <sup>3</sup> TWA: 50 ppm TWA: 270 mg/m <sup>3</sup>	STEL: 20 ppm STEL: 110 mg/m <sup>3</sup> TWA: 20 ppm TWA: 110 mg/m <sup>3</sup>	STEL: 320 mg/m <sup>3</sup> TWA: 160 mg/m <sup>3</sup>		

### 8.2. Exposure controls

<b>Engineering Controls</b>	Ensure adequate ventilation, especially in confined areas.
<b>Personal protective equipment</b>	
<b>Eye/face protection</b>	Tight sealing safety goggles.
<b>Hand Protection</b>	Gloves made of plastic or rubber.
<b>Body Protection</b>	Suitable protective clothing.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>General Hygiene Considerations</b>	Handle in accordance with good industrial hygiene and safety practice.
<b>Environmental exposure controls</b>	No information available.

## Section 9: PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

<u>Property</u>	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
<b>Appearance</b>			
<b>Physical state</b>	: Liquid		
<b>Color</b>	: brown to orange		
<b>Odor</b>	: Not determined		
<b>Odor threshold</b>	: No data available		
<b>pH</b>	: 4.6-5.6	CIPAC MT 31.2	solution (1 %)
<b>Melting point/freezing point °C</b>	: No data available		
<b>Boiling point/boiling range °C</b>	: No data available		
<b>Flash point °C</b>	: 86-96	EEC A.9	
<b>Evaporation rate</b>	: Not Applicable		
<b>Flammability (solid, gas)</b>	: Not Applicable		
<b>Upper/lower flammability or explosive limits</b>	: No data available		
<b>Vapor pressure kPa</b>	: No data available		
<b>Vapor density</b>	: No data available		
<b>Relative density</b>	: 0.904-1.004	OECD 114	
<b>Solubility(ies) mg/l</b>	: No data available		
<b>Partition Coefficient (n-octanol/water) Log Pow</b>	:		See Section 12 for more information
<b>Autoignition temperature °C</b>	: 220-230	EEC A.15	
<b>Decomposition temperature °C</b>	: No data available		
<b>Kinematic viscosity mm<sup>2</sup>/s 40 °C</b>	: 5.87	EEC A.5	
<b>Explosive properties</b>	: Not an explosive		
<b>Oxidizing properties</b>	: No data available		

### 9.2. Other information

<b>Bulk density g/ml</b>	:	No data available
<b>Surface tension mN/m</b>	: Not Applicable	

## Section 10: STABILITY AND REACTIVITY

### 10.1. Reactivity

No data available.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

None under normal processing.

### 10.4. Conditions to avoid

Heat, flames and sparks.

### 10.5. Incompatible materials

No information available

### 10.6. Hazardous decomposition products

None under normal use conditions.

## Section 11: TOXICOLOGY INFORMATION

### 11.1. Information on toxicological effects

#### Acute toxicity

	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Oral LD50 mg/kg	: 1750	Rat	OECD 425	
Dermal LD50 mg/kg	: >5000	Rat	OECD 402	
Inhalation LC50 mg/l/4h	: >2.71	Rat	OECD 403	
Skin corrosion/irritation	: Non-irritating to the skin	Rabbit	OECD 404	
Serious eye damage/eye irritation	: Irritating to eyes	Rabbit	OECD 405	
Respiratory/skin sensitization	: Not a skin sensitizer	Guinea pig	OECD 406	

#### Chronic toxicity

##### Germ cell mutagenicity

Chemical Name  
Isopyrazam : Not classified

##### Carcinogenicity

Chemical Name  
Isopyrazam : Not Carcinogenic

##### Reproductive toxicity

Chemical Name  
Isopyrazam : H361d - Suspected of damaging the unborn child

##### STOT - single exposure

Chemical Name  
Isopyrazam : No data available

##### STOT - repeated exposure

Chemical Name  
Isopyrazam : No data available

##### Aspiration hazard

Chemical Name  
Isopyrazam : No data available

## Section 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

#### Aquatic toxicity

<b>Acute toxicity</b>	<b>Values</b>	<b>Species</b>	<b>Method</b>	<b>Remarks</b>
<b>Fish 96-hour LC50 mg/l</b>	: 0.32	Oncorhynchus mykiss		
<b>Crustacea 48-hour EC50 mg/l</b>	: 0.35	Daphnia magna		
<b>Algae 72-hour EC50 mg/l</b>	: 14	P. subcapitata		
<b>Other plants EC50 mg/l</b>	:			No data available

#### **Terrestrial Toxicity**

##### **Birds Oral LD50 mg/kg**

###### **Chemical Name**

Isoprazam : >2000 C. virginianus Acute toxicity

##### **Bees Oral LD50 µg/bee**

###### **Chemical Name**

Isoprazam : ... No data available

#### **12.2. Persistence and degradability**

##### **Abiotic Degradation**

###### **Water DT50 days**

###### **Chemical Name**

Isoprazam : 21d Not persistent in water

###### **Soil DT50 days**

###### **Chemical Name**

Isoprazam : 70d SFO Not persistent in soil

##### **Biodegradation**

###### **Chemical Name**

Isoprazam : Not readily biodegradable

#### **12.3. Bioaccumulative potential**

##### **Partition Coefficient**

###### **(n-octanol/water) Log Pow**

###### **Chemical Name**

Isoprazam : 4.1 OECD 107 pH 7.3 ; 25 ° C

##### **Bioconcentration factor (BCF)**

###### **Chemical Name**

Isoprazam : 441 Based on whole fish

#### **12.4. Mobility in soil**

##### **Adsorption/Desorption**

###### **Chemical Name**

Isoprazam : 2416 Koc

#### **12.5. Results of PBT and vPvB assessment**

The components in this formulation do not meet the criteria for classification as PBT or vPvB

#### **12.6. Other adverse effects**

No information available.

### **Section 13: DISPOSAL CONSIDERATIONS**

#### **13.1. Waste treatment methods**

##### **Waste from residues/unused products**

Disposal should be in accordance with applicable regional, national and local laws and regulations.

<b>Contaminated packaging</b>	Improper disposal or reuse of this container may be dangerous and illegal.
<b>Other Information</b>	Waste codes should be assigned by the user based on the application for which the product was used.

## Section 14: TRANSPORTATION INFORMATION

### IMDG/IMO

14.1 UN/ID No *	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( Isopyrazam )
14.3 Hazard Class	9
14.4 Packing Group	III
14.5 Marine pollutant	Yes
14.6 Special precautions for user	

### RID/ADR

14.1 UN/ID No *	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( Isopyrazam )
14.3 Hazard Class	9
14.4 Packing Group	III
14.5 Environmental hazard	Yes
14.6 Special precautions for user	
14.7 Tunnel restriction code	-

### ICAO/IATA

14.1 UN/ID No *	3082
14.2 Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. ( Isopyrazam )
14.3 Hazard Class	9
14.4 Packing Group	III
14.5 Environmental hazard	Yes
14.6 Special precautions for user	
14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not Applicable



\* Note: UN3077 & UN3082 – These products may be transported as non-dangerous goods under the special provisions of IMDG Code 2.10.2.7; ADR SP375 and ICAO/IATA A197 when packed in single or inner packaging of up to 5L for liquids or 5 kg or less for solids.

## Section 15: REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

### 15.2. Chemical safety assessment

A chemical safety assessment according to regulation (EC) No. 1907/2006 is not required. A risk assessment was performed according to directive (EC) No. 91/414 or according to regulation (EC) No. 1107/2009.

## Section 16: OTHER INFORMATION



**Full text of H-Statements referred to under sections 2 and 3**

H302 - Harmful if swallowed  
H315 - Causes skin irritation  
H317 - May cause an allergic skin reaction  
H318 - Causes serious eye damage  
H319 - Causes serious eye irritation  
H332 - Harmful if inhaled  
H335 - May cause respiratory irritation  
H361d - Suspected of damaging the unborn child  
H400 - Very toxic to aquatic life  
H410 - Very toxic to aquatic life with long lasting effects  
H412 - Harmful to aquatic life with long lasting effects

**List of Acronyms**

ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road  
ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways  
CAS Number - Chemical Abstracts Service number  
EC Number - EINECS and ELINCS Number  
EINECS - European Inventory of Existing Commercial Substances  
ELINCS - European List of notified Chemical Substances  
IATA - International Air Transport Association  
ICAO-TI - Technical Instructions for the Safe Transport of Dangerous Goods by Air  
IMDG - International Maritime Dangerous Goods  
LC50 - Lethal Concentration to 50 % of a test population  
LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose)  
OECD - Organization for Economic Co-operation and Development  
PBT - Persistent, Bioaccumulative and Toxic substance  
RID - Regulations concerning the International Carriage of Dangerous Goods by Rail  
STOT - Specific Target Organ Toxicity  
vPvB - Very Persistent and Very Bioaccumulative

**This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006**

**Revision Note**

Changes made to the last version are labeled with this sign \*\*\*.

**Disclaimer**

**The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.**

**End of Safety Data Sheet**