



SAFETY DATA SHEET

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

Reflect

Revision Date 16-Apr-2020

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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
Third Floor East
1410 Arlington Business Park
Theale
READING
RG7 4SA
Tel: 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)
National Poisons Information Centre (Republic of Ireland)
Tel: 01 809 2166 (8am – 10pm 7 days a week)***

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 Environment - Chronic Hazard Category 1 - (H410)

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 victim to fresh air and keep at rest in a position 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
 EUH208 - Contains Isopyrazam. May produce an allergic reaction.

Additional phrases for PPP

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	40-45	N/A	909-125-3	-	Skin Irrit. 2 (H315)		01-2119974115

N,N-Dimethyloctan-1-amide and N,N-Dimethyldecan-1-amide					Eye Dam. 1 (H318) STOT SE 3 (H335)***		-37-0001 01-2119974115 -37-0002***
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) Eye Irrit. 2 (H319) STOT SE 3 (H335)		01-2119487289 -20
Poly(oxy-1,2-ethanediy l), .alpha.-[tris(1-phenylethyl)phenyl]-.omega.-hydroxy-	1-2	99734-09-5	619-457-8***	-	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

General advice	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!.
Inhalation	Remove to fresh air. If breathing is irregular or stopped, administer artificial respiration. Call a physician.
Skin Contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. If symptoms persist, call a physician.
Eye contact	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.
Ingestion	Rinse mouth. Drink plenty of water. Call a physician immediately.
Self-protection of the first aider	Use personal protective equipment as required.

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

Symptoms None known.

4.3. Indication of any immediate medical attention and special treatment needed

Note to physicians Treat symptomatically.

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 ³ Ceiling / Peak: 10 ppm Ceiling / Peak: 54 mg/m ³ TWA: 20 ppm

Chemical Name	Austria	Switzerland	Poland	Norway	TWA: 110 mg/m ³ Ireland
2-Ethylhexan-1-ol 104-76-7	Skin STEL 100 ppm STEL 540 mg/m ³ TWA: 50 ppm TWA: 270 mg/m ³	STEL: 20 ppm STEL: 110 mg/m ³ TWA: 20 ppm TWA: 110 mg/m ³	STEL: 320 mg/m ³ TWA: 160 mg/m ³		

8.2. Exposure controls

Engineering Controls	Ensure adequate ventilation, especially in confined areas.
Personal protective equipment	
Eye/face protection	Tight sealing safety goggles.
Hand Protection	Suitable chemical resistant gloves (EN 374) also with prolonged, direct contact (recommendation: protection index 6, corresponding > 480 minutes Permeability time (permeation) according to EN 374): e.g. nitrile rubber (0.4 mm), chloroprene rubber (0.5 mm), butyl rubber (0.7 mm).
Body Protection	Use suitable protective clothing and equipment if required, such as safety goggles certified to EN 166, gloves certified to EN 374, protective boots certified to EN 13832, and/or a water repellent woven coverall with 65% polyester and 35 % cotton.
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment.
General Hygiene Considerations	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	No information available.

Section 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

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

9.2. Other information

Bulk density g/ml : No data available
 Surface tension mN/m : 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

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

Chronic aquatic toxicity	<u>Values</u>	<u>Species</u>	<u>Method</u>	<u>Remarks</u>
Fish NOEC mg/l	: No data available			
Crustacea NOEC mg/l	: No data available			
Algae NOEC mg/l	: No data available			
Other plants NOEC mg/l	: No data available			

Terrestrial Toxicity

Birds Oral LD50 mg/kg
Chemical Name
Isopyrazam : >2000 C. virginianus Acute toxicity

Bees Oral LD50 µg/bee
Chemical Name
Isopyrazam : >95.5*** Apis mellifera*** OECD 213***

12.2. Persistence and degradability

Abiotic Degradation	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
Water DT50 days Chemical Name Isopyrazam	: 21d		Not persistent in water

Soil DT50 days Chemical Name Isopyrazam	: 70d	SFO	Not persistent in soil
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Biodegradation
Chemical Name
Isopyrazam : Not readily biodegradable

12.3. Bioaccumulative potential

Partition Coefficient	<u>Values</u>	<u>Method</u>	<u>Remarks</u>
(n-octanol/water) Log Pow Chemical Name Isopyrazam	: 4.1	OECD 107	pH 7.3 ; 25 ° C

Bioconcentration factor (BCF)
Chemical Name
Isopyrazam : 441 Based on whole fish

12.4. Mobility in soil

Adsorption/Desorption Chemical Name	Values	Method	Remarks
Isopyrazam	: 2416		.?

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.
Contaminated packaging	Improper disposal or reuse of this container may be dangerous and illegal.
Other Information	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

Trade name	Registration number	Registration date
Not Applicable	Not Applicable	Not Applicable

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 ***.

Process of classification evaluation in accordance with CLP regulation.

Classification of the mixture

H302 - Harmful if swallowed
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H361d - Suspected of damaging the unborn child
H400 - Very toxic to aquatic life
H410 - Very toxic to aquatic life with long lasting effects***

Classification procedure

Classification based on test data
Classification based on test data
Classification based on test data
Classification based on Calculation method
Classification based on test data
Classification based on Calculation method***

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