



SAFETY DATA SHEET IRS2127 HARDENER

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product name IRS2127 HARDENER

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

Identified uses Curing agent.

1.3. Details of the supplier of the safety data sheet

Supplier Intertronics
Unit 12a
Station Field Industrial Estate
Banbury Road
Kidlington
Oxfordshire, OX5 1JD
+44 (0)1865842842

1.4. Emergency telephone number

Emergency telephone +44 (0)1285 712755 (Monday-Friday 8am-4.30pm)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Not Classified
Health hazards Skin Sens. 1 - H317
Environmental hazards Aquatic Chronic 3 - H412

2.2. Label elements

Hazard pictograms



Signal word Warning

Hazard statements H317 May cause an allergic skin reaction.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements P261 Avoid breathing vapour/ spray.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
P302+P352 IF ON SKIN: Wash with plenty of water.
P333+P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362+P364 Take off contaminated clothing and wash it before reuse.

Supplemental label information EUH210 Safety data sheet available on request.

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Contains Reaction products of pentaerythritol, propoxylated and 1-chloro-2, 3-epoxypropane with hydrogen sulfide

Supplementary precautionary statements P272 Contaminated work clothing should not be allowed out of the workplace.
P321 Specific treatment (see medical advice on this label).
P501 Dispose of contents/ container in accordance with national regulations.

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

Reaction products of pentaerythritol, propoxylated and 1-chloro-2, 3-epoxypropane with hydrogen sulfide			70-100%
CAS number: —	EC number: 701-196-7	REACH registration number: 01-2120118957-46-XXXX	
Classification Skin Sens. 1B - H317 Aquatic Chronic 3 - H412			
Silicones and siloxanes, dimethyl-, reaction products with silica			1-5%
CAS number: 67762-90-7			
Classification Not Classified			
2,4,6-tris(dimethylaminomethyl)phenol			1-5%
CAS number: 90-72-2	EC number: 202-013-9	REACH registration number: 01-2119560597-27-XXXX	
Classification Acute Tox. 4 - H302 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319			
Bis[(diethylamino)methyl]phenol			<1%
CAS number: 71074-89-0	EC number: 275-162-0		
Classification Skin Corr. 1B - H314 Eye Dam. 1 - H318			

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Remove person to fresh air and keep comfortable for breathing. Get medical attention if symptoms are severe or persist.

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Ingestion	Rinse mouth thoroughly with water. IF SWALLOWED: Give plenty of water to drink. Do not induce vomiting unless under the direction of medical personnel. Get medical attention if any discomfort continues.
Skin contact	Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.
Eye contact	Remove any contact lenses and open eyelids wide apart. Rinse immediately with plenty of water. Continue to rinse for at least 15 minutes. Get medical attention if irritation persists after washing.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue.

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

General information	The product is considered to be a low hazard under normal conditions of use.
Inhalation	May cause irritation.
Ingestion	May cause discomfort if swallowed.
Skin contact	May be slightly irritating to skin.
Eye contact	May be slightly irritating to eyes.

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

Notes for the doctor	Treat symptomatically. Get medical attention if a large quantity has been ingested.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Water spray, foam, dry powder or carbon dioxide.
Unsuitable extinguishing media	Do not use water jet as an extinguisher, as this will spread the fire.

5.2. Special hazards arising from the substance or mixture

Specific hazards	Irritating gases or vapours.
Hazardous combustion products	Carbon monoxide (CO). Carbon dioxide (CO ₂). Flammable gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting	Cool containers exposed to heat with water spray and remove them from the fire area if it can be done without risk. Ventilate closed spaces before entering them.
Special protective equipment for firefighters	Firefighter's clothing conforming to European standard EN469 (including helmets, protective boots and gloves) will provide a basic level of protection for chemical incidents. Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Provide adequate ventilation.
For non-emergency personnel	No action shall be taken without appropriate training or involving any personal risk. Keep unnecessary and unprotected personnel away from the spillage. Do not touch or walk into spilled material. Wear protective clothing as described in Section 8 of this safety data sheet.
For emergency responders	Avoid inhalation of vapours and contact with skin and eyes. Keep upwind to avoid inhalation of gases, vapours, fumes and smoke. Wear protective clothing as described in Section 8 of this safety data sheet. Ventilate closed spaces before entering them.

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6.2. Environmental precautions

Environmental precautions Avoid the spillage or runoff entering drains, sewers or watercourses. Inform the relevant authorities if environmental pollution occurs (sewers, waterways, soil or air).

6.3. Methods and material for containment and cleaning up

Methods for cleaning up When handling waste, the safety precautions applying to handling of the product should be considered. Stop leak if safe to do so. Move containers from spillage area. Alternatively, or if it is not water-soluble, absorb the spillage with an inert, dry material and place it in a suitable waste disposal container. Dispose of waste via a licensed waste disposal contractor.

6.4. Reference to other sections

Reference to other sections See Section 1 for emergency contact information. For personal protection, see Section 8. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Wear protective clothing as described in Section 8 of this safety data sheet. Provide adequate ventilation. Avoid inhalation of vapours/spray and contact with skin and eyes. Avoid release to the environment.

Advice on general occupational hygiene Do not eat, drink or smoke when using this product. Wash after use and before eating, smoking and using the toilet. Take off contaminated clothing and wash it before reuse.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in accordance with local regulations. Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep containers upright. Keep away from food, drink and animal feeding stuffs. Store away from incompatible materials (see Section 10).

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

No exposure limits known for ingredient(s).

Reaction products of pentaerythritol, propoxylated and 1-chloro-2, 3-epoxypropane with hydrogen sulfide

As supplied, the material does not present a health hazard.

No exposure scenario required.

Silicones and siloxanes, dimethyl-, reaction products with silica

No exposure limits known for ingredient(s).

2,4,6-tris(dimethylaminomethyl)phenol

No exposure limits known for ingredient(s).

Bis[(diethylamino)methyl]phenol

No exposure limits known for ingredient(s).

8.2. Exposure controls

Protective equipment



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Appropriate engineering controls	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Good general ventilation should be adequate to control worker exposure to airborne contaminants.
Eye/face protection	Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Tight-fitting safety glasses. Personal protective equipment for eye and face protection should comply with European Standard EN166.
Hand protection	Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected.
Other skin and body protection	Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.
Hygiene measures	Provide eyewash station. Wash at the end of each work shift and before eating, smoking and using the toilet. Remove contaminated clothing and protective equipment before entering eating areas. Wash contaminated clothing before reuse.
Respiratory protection	Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Respirator selection must be based on exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Environmental exposure controls	Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. Keep container tightly sealed when not in use.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Gel.
Colour	Off-white.
Odour	Pungent.
pH	pH (concentrated solution): 3-5
Flash point	> 94°C Cleveland open cup.
Relative density	1.18 @ 20°C
Solubility(ies)	Slightly soluble in water.

9.2. Other information

Other information	No information required.
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SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Under normal conditions of storage and use, no hazardous reactions will occur.
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10.4. Conditions to avoid

Conditions to avoid Avoid excessive heat for prolonged periods of time.

10.5. Incompatible materials

Materials to avoid Acids. Acids - oxidising. Amines. Oxidising agents.

10.6. Hazardous decomposition products

Hazardous decomposition products Carbon dioxide (CO₂). Hydrogen sulphide (H₂S). Sulphur dioxide.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD₅₀) 2600 mg/kg, Oral, Rabbit Estimated value.

ATE oral (mg/kg) 23,809.52

Acute toxicity - dermal

Notes (dermal LD₅₀) >10200 mg/kg, Dermal, Rabbit Estimated value.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) Based on available data the classification criteria are not met.

Skin corrosion/irritation

Animal data Based on available data the classification criteria are not met.

Serious eye damage/irritation

Serious eye damage/irritation Based on available data the classification criteria are not met.

Respiratory sensitisation

Respiratory sensitisation Based on available data the classification criteria are not met.

Skin sensitisation

Skin sensitisation Based on available data the classification criteria are not met.

Germ cell mutagenicity

Genotoxicity - in vitro Based on available data the classification criteria are not met.

Carcinogenicity

Carcinogenicity Based on available data the classification criteria are not met.

IARC carcinogenicity

None of the ingredients are listed or exempt.

Reproductive toxicity

Reproductive toxicity - fertility Based on available data the classification criteria are not met.

Reproductive toxicity - development

Based on available data the classification criteria are not met.

Specific target organ toxicity - single exposure

STOT - single exposure Not classified as a specific target organ toxicant after a single exposure.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure Not classified as a specific target organ toxicant after repeated exposure.

Aspiration hazard

Aspiration hazard Not anticipated to present an aspiration hazard, based on chemical structure.

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General information	No specific health hazards known.
Inhalation	No adverse effects known.
Ingestion	Only large quantities are likely to have adverse effects on human health.
Skin contact	No adverse effects known.
Eye contact	May irritate eyes.
Acute and chronic health hazards	No known chronic or acute health risks.
Route of exposure	Dermal Skin and/or eye contact Inhalation
Medical considerations	The following pre-existing or historic medical conditions of the worker may lead to an increased risk of adverse health effects following exposure to this product: Skin disorders and allergies.

Toxicological information on ingredients.

Reaction products of pentaerythritol, propoxylated and 1-chloro-2, 3-epoxypropane with hydrogen sulfide

Toxicological effects No information available.

Silicones and siloxanes, dimethyl-, reaction products with silica

Acute toxicity - oral

Notes (oral LD₅₀) >5,000 mg/kg, Oral, Rat Information given is based on data of the components and of similar products.

Acute toxicity - dermal

Notes (dermal LD₅₀) >2,000 mg/kg, Dermal, Rat Information given is based on data of the components and of similar products.

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC0 0.139 mg/l/4hr/day, Inhalation, Rat Conclusive data but not sufficient for classification. Information given is based on data of the components and of similar products.

2,4,6-tris(dimethylaminomethyl)phenol

Acute toxicity - oral

Notes (oral LD₅₀) 2,169 mg/kg, Oral, Rat

ATE oral (mg/kg) 500.0

Bis[(diethylamino)methyl]phenol

Toxicological effects No information available.

SECTION 12: Ecological information

Ecotoxicity Not regarded as dangerous for the environment. However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Toxicity Harmful to aquatic life with long lasting effects.

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Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: >8,000 mg/l, Brachydanio rerio (Zebra Fish)
Estimated value.

Acute toxicity - aquatic invertebrates EC₅₀, 96 hours: >1,000 mg/l, Daphnia magna
Estimated value.

Ecological information on ingredients.

Reaction products of pentaerythritol, propoxylated and 1-chloro-2, 3-epoxypropane with hydrogen sulfide

Toxicity No data available.

Silicones and siloxanes, dimethyl-, reaction products with silica

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: >10,000 mg/l, Brachydanio rerio (Zebra Fish)
Information given is based on data of the components and of similar products.

Acute toxicity - aquatic invertebrates EC₅₀, 24 hours: >1,000 mg/l, Daphnia magna
Information given is based on data of the components and of similar products.

2,4,6-tris(dimethylaminomethyl)phenol

Acute aquatic toxicity

Acute toxicity - fish LC₅₀, 96 hours: 175 mg/l, Cyprinus carpio (Common carp)

Acute toxicity - aquatic plants ErC₅₀, 72 hours: 84 mg/l, Desmodesmus subspicatus
NOEC, 72 hours: 6.25 mg/l, Desmodesmus subspicatus

Bis[(diethylamino)methyl]phenol

Toxicity No information available.

12.2. Persistence and degradability

Biodegradation Not expected to be readily biodegradable.

Ecological information on ingredients.

Reaction products of pentaerythritol, propoxylated and 1-chloro-2, 3-epoxypropane with hydrogen sulfide

Persistence and degradability Not expected to be readily biodegradable.

Silicones and siloxanes, dimethyl-, reaction products with silica

Persistence and degradability No data available.

2,4,6-tris(dimethylaminomethyl)phenol

Persistence and degradability Not readily biodegradable.

Bis[(diethylamino)methyl]phenol

Persistence and degradability No data available.

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12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Ecological information on ingredients.

Reaction products of pentaerythritol, propoxylated and 1-chloro-2, 3-epoxypropane with hydrogen sulfide

Bioaccumulative potential No information available.

Silicones and siloxanes, dimethyl-, reaction products with silica

Bioaccumulative potential No data available on bioaccumulation.

2,4,6-tris(dimethylaminomethyl)phenol

Partition coefficient log Pow: -0.56 (25°C)

Bis[(diethylamino)methyl]phenol

Bioaccumulative potential No data available on bioaccumulation.

12.4. Mobility in soil

Mobility No data available.

Ecological information on ingredients.

Reaction products of pentaerythritol, propoxylated and 1-chloro-2, 3-epoxypropane with hydrogen sulfide

Mobility No data available.

Silicones and siloxanes, dimethyl-, reaction products with silica

Mobility No data available.

2,4,6-tris(dimethylaminomethyl)phenol

Mobility No data available.

Bis[(diethylamino)methyl]phenol

Mobility No data available.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

Ecological information on ingredients.

Reaction products of pentaerythritol, propoxylated and 1-chloro-2, 3-epoxypropane with hydrogen sulfide

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Silicones and siloxanes, dimethyl-, reaction products with silica

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

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2,4,6-tris(dimethylaminomethyl)phenol

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

Bis[(diethylamino)methyl]phenol

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information The generation of waste should be minimised or avoided wherever possible. Reuse or recycle products wherever possible. This material and its container must be disposed of in a safe way. Disposal of this product, process solutions, residues and by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any local authority requirements. When handling waste, the safety precautions applying to handling of the product should be considered.

Disposal methods The generation of waste should be minimised or avoided wherever possible. Waste, residues, empty containers, discarded work clothes and contaminated cleaning materials should be collected in designated containers, labelled with their contents. Incineration or landfill should only be considered when recycling is not feasible. Do not empty into drains.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID)	3334
UN No. (IMDG)	3334
UN No. (ICAO)	3334
UN No. (ADN)	3334

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	AVIATION REGULATED LIQUID, N.O.S.(mercaptan-terminated polymer)
Proper shipping name (IMDG)	AVIATION REGULATED LIQUID, N.O.S.(mercaptan-terminated polymer)
Proper shipping name (ICAO)	AVIATION REGULATED LIQUID, N.O.S.(mercaptan-terminated polymer)
Proper shipping name (ADN)	AVIATION REGULATED LIQUID, N.O.S.(mercaptan-terminated polymer)

14.3. Transport hazard class(es)

ADR/RID class	9
ADR/RID classification code	M11
ADR/RID label	9
IMDG class	9
ICAO class/division	9
ADN class	9

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Transport labels



14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ICAO packing group	III
ADN packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

No.

14.6. Special precautions for user

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Not applicable.

Annex II of MARPOL 73/78

and the IBC Code

SECTION 15: Regulatory information

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

National regulations	Health and Safety at Work etc. Act 1974 (as amended). The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"]. EH40/2005 Workplace exposure limits.
EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). COMMISSION REGULATION (EU) 2015/830 of 28 May 2015. Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

Inventories

EU - EINECS/ELINCS

None of the ingredients are listed or exempt.

SECTION 16: Other information

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**Abbreviations and acronyms
used in the safety data sheet**

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.
RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
IATA: International Air Transport Association.
ICAO: Technical Instructions for the Safe Transport of Dangerous Goods by Air.
IMDG: International Maritime Dangerous Goods.
CAS: Chemical Abstracts Service.
ATE: Acute Toxicity Estimate.
LC₅₀: Lethal Concentration to 50 % of a test population.
LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
EC₅₀: 50% of maximal Effective Concentration.
PBT: Persistent, Bioaccumulative and Toxic substance.
vPvB: Very Persistent and Very Bioaccumulative.

Training advice

Read and follow manufacturer's recommendations. Only trained personnel should use this material.

Revision date

22/05/2020

Revision

8

Supersedes date

20/09/2018

SDS number

5135

Hazard statements in full

H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H412 Harmful to aquatic life with long lasting effects.

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.