

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

1.1. Product Identifier

Product Form	: Substance
Product Name	: Frostbite
Chemical Name	: R1234ze
EC-No.	: 471-480-0
CAS-No.	: 29118-24-9
Product Code	: 3803100, 3803100E, 3803100EE
Formula	: C3H2F4
Synonyms	: 1,3,3,3-tetrafluoropropene, (1E)- / (1E)-1,3,3,3-Tetrafluoroprop-1-ene / (E)-1,3,3,3-Tetrafluoro-1-propene / (E)-1,3,3,3-Tetrafluoroprop-1-ene / (E)-1,3,3,3-Tetrafluoropropene / E-HFO-1234ze / HFC-1234ze(E) / HFO-1234ze(E) / 1-Propene, 1,3,3,3-tetrafluoro-, (1E) / trans-1,3,3,3-Tetrafluoroprop-1-ene / trans-1,3,3,3-Tetrafluoropropene / trans-1,3,3,3-Tetrafluoropropylene

1.2. Relevant Identified Uses of the Substance or Mixture and Uses Advised Against

1.2.1. Relevant Identified Uses

Use of the Substance/Mixture : Laboratory use.

1.2.2. Uses Advised Against

Uses Advised Against : Restricted to professional users.

1.3. Details of the Supplier of the Safety Data Sheet

Supplier

Leica Biosystems Richmond Inc.
5205 Rt. 12
Richmond, Illinois 60071
United States
+1 800-572-6501

Importer

Leica Biosystems Newcastle Ltd
Balliol Business Park West Benton Lane Newcastle Upon Tyne
NE12 8EW United Kingdom
+44 191 215 0567
lbsna-lbs-qa@leicabiosystems.com

1.4. Emergency Telephone Number

Emergency Number : CHEMTREC
United Kingdom: +44-20-3807-3798
Within USA and Canada: 1-800-424-9300
International: +1-703-527-3887 (Collect calls accepted)

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the Substance or Mixture

Classification According to the GB CLP Regulation

Aerosol, Category 3 H229

2.2. Label Elements

Labelling According to the GB CLP Regulation

Signal Word (GB CLP)	: Warning
Hazard Statements (GB CLP)	: H229 - Pressurised container: May burst if heated.
Precautionary Statements (GB CLP)	: P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P251 - Do not pierce or burn, even after use. P410+P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

2.3. Other Hazards

Contains no PBT and/or vPvB substances $\geq 0,1\%$ assessed in accordance with REACH Annex XIII

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Other Hazards Not Contributing to the Classification : Exposure may aggravate pre-existing eye, skin, or respiratory conditions.
Asphyxiating gas at high concentrations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Name	Product Identifier	%	Classification According to the GB CLP Regulation
1-Propene, 1,3,3,3-tetrafluoro-, (1E)-	(CAS-No.) 29118-24-9 (EC-No.) 471-480-0	100	Press. Gas (Liq.), H280

Full text of H-statements: see section 16

3.2. Mixtures

Not applicable

SECTION 4: FIRST AID MEASURES

4.1. Description of First-aid Measures

- First-Aid Measures General** : Never give anything by mouth to an unconscious person. If you feel unwell, seek medical advice (show the label where possible).
- First-Aid Measures After Inhalation** : When symptoms occur: go into open air and ventilate suspected area. Obtain medical attention if breathing difficulty persists.
- First-Aid Measures After Skin Contact** : Remove contaminated clothing. If frostbite or freezing from exposure to gas/liquid escaping the container occurs: Drench affected area with water for at least 5 minutes. Obtain medical attention if irritation develops or persists.
- First-Aid Measures After Eye Contact** : Rinse cautiously with water for at least 5 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Obtain medical attention if irritation develops or persists. If frostbite or freezing occurs, immediately flush with plenty of lukewarm water to GENTLY warm the affected area. Do not use hot water. Do not rub affected area. Get immediate medical attention.
- First-Aid Measures After Ingestion** : Though risk of ingestion is extremely unlikely, in case of frostbite or freeze burns due to oral exposure seek immediate medical attention.

4.2. Most Important Symptoms and Effects Both Acute and Delayed

- Symptoms/Effects** : May cause frostbite on contact with the liquid. Asphyxiant gas.
- Symptoms/Effects After Inhalation** : In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death.
- Symptoms/Effects After Skin Contact** : Prolonged exposure may cause skin irritation. Contact with gas/liquid escaping the container can cause frostbite and freeze burns.
- Symptoms/Effects After Eye Contact** : May cause slight irritation to eyes. Contact with gas/liquid escaping the container can cause frostbite, freeze burns, and permanent eye damage.
- Symptoms/Effects After Ingestion** : Not considered a potential route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite.
- Chronic Symptoms** : None expected under normal conditions of use.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed

If exposed or concerned, get medical advice and attention. If medical advice is needed, have product container or label at hand.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing Media

- Suitable Extinguishing Media** : Not flammable. Use extinguishing media appropriate for surrounding fire.
- Unsuitable Extinguishing Media** : None known.

5.2. Special Hazards Arising From the Substance or Mixture

- Fire Hazard** : Not considered flammable but may burn at high temperatures.
- Explosion Hazard** : Container may explode in heat of fire.
- Reactivity** : Hazardous reactions will not occur under normal conditions.
- Hazardous Decomposition Products in Case of Fire** : Carbon oxides (CO, CO₂). Fluorine compounds.

5.3. Advice for Firefighters

- Precautionary Measures Fire** : Exercise caution when fighting any chemical fire.
- Firefighting Instructions** : Use water spray or fog for cooling exposed containers. Fight fire remotely due to the risk of explosion.

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Protection During Firefighting : Do not enter fire area without proper protective equipment, including respiratory protection.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal Precautions, Protective Equipment and Emergency Procedures

General Measures : Do not get in eyes, on skin, or on clothing. Do not breathe gas.

6.1.1. For Non-Emergency Personnel

Protective Equipment : Use appropriate personal protective equipment (PPE).

Emergency Procedures : Evacuate unnecessary personnel.

6.1.2. For Emergency Responders

Protective Equipment : Equip cleanup crew with proper protection.

Emergency Procedures : Evacuate unnecessary personnel, isolate, and ventilate area. Upon arrival at the scene, a first responder is expected to recognise the presence of dangerous goods, protect oneself and the public, secure the area, and call for the assistance of trained personnel as soon as conditions permit.

6.2. Environmental Precautions

Prevent entry to sewers and public waters.

6.3. Methods and Materials for Containment and Cleaning Up

For Containment : Stop leak, if possible without risk. As an immediate precautionary measure, isolate spill or leak area in all directions.

Methods for Cleaning Up : Clean up spills immediately and dispose of waste safely. Stop the source of the release, if safe to do so. Consider the use of water spray to disperse vapors. Isolate the area until gas has dispersed. Ventilate and gas test area before entering. Allow liquid to evaporate. Contact competent authorities after a spill.

6.4. Reference to Other Sections

See Section 8 for exposure controls and personal protection and Section 13 for disposal considerations.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for Safe Handling

Additional Hazards When Processed : Pressurised container: May burst if heated. Do not pierce or burn, even after use. Asphyxiating gas at high concentrations.

Precautions for Safe Handling : Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Avoid prolonged contact with eyes, skin and clothing. Do not breathe gas.

Hygiene Measures : Handle in accordance with good industrial hygiene and safety procedures.

7.2. Conditions for Safe Storage, Including Any Incompatibilities

Technical Measures : Store and use with adequate ventilation. Do not pierce or burn, even after use. Comply with applicable regulations.

Storage Conditions : Store in accordance with applicable national storage class systems. Keep/Store away from direct sunlight, extremely high or low temperatures and incompatible materials. Keep only in the original container in a cool, well ventilated place away from ignition sources. Protect from sunlight. Do not expose to temperatures exceeding 50°C/ 122°F.

Incompatible Materials : Alkali metals. Strong oxidisers.

Heat and ignition sources : Intense heat may cause container to burst.

Information on mixed storage : Refer to Section 10 on Incompatible Materials.

7.3. Specific End Use(S)

Laboratory use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control Parameters

Please see section 16 for the legal basis of limit value information in section 8.1, including the national legislation or provision which gives rise to a given limit.

8.2. Exposure Controls

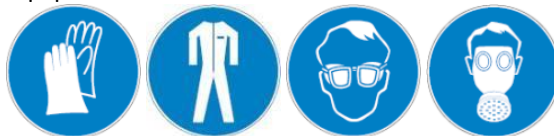
Appropriate Engineering Controls : Suitable eye/body wash equipment should be available in the vicinity of any potential exposure. Ensure adequate ventilation, especially in confined areas. Ensure all national/local regulations are observed. Oxygen detectors should be used when asphyxiating gases may be released.

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Personal Protective Equipment : Gloves. Protective clothing. Protective goggles. Insufficient ventilation: wear respiratory protection. Respiratory protection of the dependent type. Personal protective equipment should be chosen in accordance with Regulation (EU) 2016/425, CEN standards, and in discussion with the supplier of the protective equipment.



Materials for Protective Clothing : Chemically resistant materials and fabrics.
Hand Protection : Wear protective gloves.
Eye Protection : Chemical goggles or safety glasses.
Skin and Body Protection : Wear suitable protective clothing.
Respiratory Protection : Use a NIOSH-approved self-contained breathing apparatus whenever exposure may exceed established Occupational Exposure Limits.
Thermal Hazard Protection : If material is cold, wear thermally resistant protective gloves.
Environmental Exposure Controls : Avoid unnecessary release into the environment.
Other Information : When using, do not eat, drink or smoke.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on Basic Physical and Chemical Properties

Physical State : Gas
Appearance : Colourless liquified gas
Odour : Odourless
Odour Threshold : No data available
pH : No data available
Evaporation Rate : No data available
Melting Point : No data available
Freezing Point : No data available
Boiling Point : -19 °C (-2,2 °F)
Flash Point : No data available
Auto-Ignition Temperature : 368 °C (694,4 °F)
Decomposition Temperature : No data available
Flammability : No data available
Vapour Pressure : 427,1 kPa
Relative Vapour Density At 20°C : No data available
Relative Density : 3,92
Solubility : Water: 373 mg/l
Partition Coefficient n-Octanol/Water : 1,6
Viscosity : No data available
Explosive Properties : No data available
Oxidising Properties : None
Explosive Limits : No data available

9.2. Other Information

No additional information available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

Hazardous reactions will not occur under normal conditions.

10.2. Chemical Stability

Pressurised container: may burst if heated.

10.3. Possibility of Hazardous Reactions

Hazardous polymerisation will not occur.

10.4. Conditions to Avoid

Direct sunlight, extremely high or low temperatures, heat, hot surfaces, sparks, open flames, incompatible materials, and other ignition sources.

10.5. Incompatible Materials

Alkali metals. Strong oxidizers.

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10.6. Hazardous Decomposition Products

Thermal decomposition may produce: Carbon oxides (CO, CO₂). Fluorine compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on Toxicological Effects

Likely Routes of Exposure	: Dermal, Ingestion, Inhalation, Eye contact
Acute Toxicity (Oral)	: Not classified. (Based on available data, the classification criteria are not met)
Acute Toxicity (Dermal)	: Not classified. (Based on available data, the classification criteria are not met)
Acute Toxicity (Inhalation)	: Not classified. (Based on available data, the classification criteria are not met)

1-Propene, 1,3,3,3-tetrafluoro-, (1E)- (29118-24-9)

LC50 Inhalation Rat	> 207000 ppm/4h
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Skin Corrosion/Irritation	: Not classified. (Based on available data, the classification criteria are not met)
Eye Damage/Irritation	: Not classified. (Based on available data, the classification criteria are not met)
Respiratory or Skin Sensitisation	: Not classified. (Based on available data, the classification criteria are not met)
Germ Cell Mutagenicity	: Not classified. (Based on available data, the classification criteria are not met)
Carcinogenicity	: Not classified. (Based on available data, the classification criteria are not met)
Reproductive Toxicity	: Not classified. (Based on available data, the classification criteria are not met)
Specific Target Organ Toxicity (Single Exposure)	: Not classified. (Based on available data, the classification criteria are not met)
Specific Target Organ Toxicity (Repeated Exposure)	: Not classified. (Based on available data, the classification criteria are not met)
Aspiration Hazard	: Not classified. (Based on available data, the classification criteria are not met)
Symptoms/Injuries After Inhalation	: In elevated concentrations may cause asphyxiation, central nervous system effects, and increased breathing rate. Symptoms of asphyxiation include headache, dizziness, rapid breathing, increased pulse, mood changes, tremors, cyanosis, muscular weakness, narcosis, numbness of the extremities, unconsciousness and death.
Symptoms/Injuries After Skin Contact	: Prolonged exposure may cause skin irritation. Contact with gas/liquid escaping the container can cause frostbite and freeze burns.
Symptoms/Injuries After Eye Contact	: May cause slight irritation to eyes. Contact with gas/liquid escaping the container can cause frostbite, freeze burns, and permanent eye damage.
Symptoms/Injuries After Ingestion	: Not considered a potential route of exposure, but contact with gas/liquid escaping the container can cause freeze burns and frostbite.
Chronic Symptoms	: None expected under normal conditions of use.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Hazardous To The Aquatic Environment, Short-Term (Acute)	: Not classified. (Based on available data, the classification criteria are not met)
Hazardous To The Aquatic Environment, Long-Term (Chronic)	: Not classified. (Based on available data, the classification criteria are not met)

12.2. Persistence and Degradability

Frostbite (29118-24-9)	
Persistence and Degradability	Not established.

12.3. Bioaccumulative potential

Frostbite (29118-24-9)	
Bioaccumulative Potential	Not established.

12.4. Mobility in Soil

No additional information available

12.5. Results Of PBT And vPvB Assessment

No additional information available

12.6. Other adverse effects

Other Information	: Avoid unintended release to the environment.
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SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Product/Packaging Disposal Recommendations	: Dispose of contents/container in accordance with local, regional, national, territorial, provincial, and international regulations. Do not pierce or burn, even after use.
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Ecology - Waste Materials : Avoid unintended release to the environment.

SECTION 14: TRANSPORT INFORMATION

The shipping description(s) stated herein were prepared in accordance with certain assumptions at the time the SDS was authored, and can vary based on a number of variables that may or may not have been known at the time the SDS was issued. In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN Number				
UN 1950	UN 1950	UN 1950	UN 1950	UN 1950
14.2. UN Proper Shipping Name				
AEROSOLS	AEROSOLS	Aerosols, non-flammable	AEROSOLS	AEROSOLS
14.3. Transport Hazard Class				
2.2	2.2	2.2	2.2	2.2
				
14.4. Packing Group				
Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
14.5. Environmental Hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No

14.6. Special Precautions For User

No additional information available

14.7. Transport in Bulk According to Annex II of MARPOL and The IBC Code

Not applicable

SECTION 15: REGULATORY INFORMATION

15.1. Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

15.1.1. EU-Regulations

15.1.1.1. REACH Annex XVII Information

Not listed on REACH Annex XVII

15.1.1.2. REACH Candidate List Information

Not listed on the REACH Candidate List

15.1.1.3. POP (2019/1021) - Persistent Organic Pollutants Information

Not listed on the POP list (Regulation EU 2019/1021)

15.1.1.4. PIC Regulation EU (649/2012) - Export and Import of Hazardous Chemicals Information

Not listed on the PIC list (Regulation EU 649/2012)

15.1.1.5. REACH Annex XIV Information

Not listed on REACH Annex XIV (Authorisation List)

15.1.1.6. Substances Depleting the Ozone layer (1005/2009) Information

No additional information available

15.1.1.7. EC Inventory Information

No additional information available

15.1.1.8. Other Information

No additional information available

15.1.2. National Regulations

No additional information available

15.1.3. International Inventory Lists

1-Propene, 1,3,3,3-tetrafluoro-, (1E)- (29118-24-9) Listed on the United States TSCA (Toxic Substances Control Act) inventory - Status: Active Listed on the Canadian DSL (Domestic Substances List) Listed introduction on Australian Industrial Chemicals Introduction Scheme (AICIS Inventory) Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory Listed on IECSC (Inventory of Existing Chemical Substances Produced or Imported in China) Listed on KECL/KECI (Korean Existing Chemicals Inventory) Listed on the Japanese ISHL (Industrial Safety and Health Law)

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Listed on the TCSI (Taiwan Chemical Substance Inventory)
Listed on the NCI (Vietnam - National Chemical Inventory)
Listed on Thailand Existing Chemicals Inventory (DIW)

15.2. Chemical Safety Assessment

No chemical safety assessment has been carried out

SECTION 16: OTHER INFORMATION

Date of Preparation or Latest Revision : 03/09/2024

Data Sources : Information and data obtained and used in the authoring of this safety data sheet could come from database subscriptions, official government regulatory body websites, product/ingredient manufacturer or supplier specific information, and/or resources that include substance specific data and classifications according to GHS or their subsequent adoption of GHS.

Other Information : Acc. to 2019 No. 758 - REACH etc. (Amendment etc.) (EU Exit) Regulations 2019 and subsequent amendments

Full Text of H-statements:

Aerosol 3	Aerosol, Category 3
H229	Pressurised container: May burst if heated.
H280	Contains gas under pressure; may explode if heated.
Press. Gas (Liq.)	Gases under pressure : Liquefied gas

Classification and Procedure Used to Derive the Classification for Mixtures According to the GB CLP Regulation:

Aerosol 3	Expert judgement
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Indication of Changes

Section	Change	Date Changed	Version
1	Language modified	03/09/2024	2.0
3	Data modified	03/09/2024	2.0
4	Language modified	03/09/2024	2.0
5	Language modified	03/09/2024	2.0
6	Language modified	03/09/2024	2.0
7	Language modified	03/09/2024	2.0
8	Data modified; Language modified	03/09/2024	2.0
9	Data modified	03/09/2024	2.0
10	Language modified	03/09/2024	2.0
11	Data modified; Language modified	03/09/2024	2.0
12	Data modified; Language modified	03/09/2024	2.0
13	Language modified	03/09/2024	2.0
15	Language modified	03/09/2024	2.0
16	Language modified	03/09/2024	2.0

Abbreviations and Acronyms

ACGIH - American Conference of Governmental Industrial Hygienists
ADN – European Agreement Concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
ATE - Acute Toxicity Estimate
BCF - Bioconcentration Factor
BEI - Biological Exposure Indices (BEI)
BOD – Biochemical Oxygen Demand
CAS No. - Chemical Abstracts Service Number
COD – Chemical Oxygen Demand
EC – European Community
EC50 - Median Effective Concentration
EEC – European Economic Community
EINECS – European Inventory of Existing Commercial Chemical Substances
EmS-No. (Fire) - IMDG Emergency Schedule Fire
EmS-No. (Spillage) - IMDG Emergency Schedule Spillage
EU – European Union
ErC50 - EC50 in Terms of Reduction Growth Rate
GB CLP - Great Britain Classification, Labelling and Packaging Regulation
GHS – Globally Harmonized System of Classification and Labeling of Chemicals
IARC - International Agency for Research on Cancer
IATA - International Air Transport Association
IBC Code - International Bulk Chemical Code
IMDG - International Maritime Dangerous Goods
IOELV – Indicative Occupational Exposure Limit Value

LOEC - Lowest-Observed-Effect Concentration
Log Koc - Soil Organic Carbon-water Partitioning Coefficient
Log Kow - Octanol/water Partition Coefficient
Log Pow - Ratio of the equilibrium concentration (C) of a dissolved substance in a two-phase system consisting of two largely immiscible solvents, in this case octanol and water
MARPOL - International Convention for the Prevention of Pollution
NOAEL - No-Observed Adverse Effect Level
NOEC - No-Observed Effect Concentration
NTP – National Toxicology Program
OEL - Occupational Exposure Limits
PBT - Persistent, Bioaccumulative and Toxic
PEL - Permissible Exposure Limit
pH – Potential Hydrogen
REACH – Registration, Evaluation, Authorisation, and Restriction of Chemicals
RID – Regulations Concerning the International Carriage of Dangerous Goods by Rail
SADT - Self Accelerating Decomposition Temperature
SDS - Safety Data Sheet
STEL - Short Term Exposure Limit
STOT - Specific Target Organ Toxicity
ThOD – Theoretical Oxygen Demand
TLM - Median Tolerance Limit
TLV - Threshold Limit Value
TSCA - Toxic Substances Control Act
TWA - Time Weighted Average
VOC – Volatile Organic Compounds

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LC50 - Median Lethal Concentration

LD50 - Median Lethal Dose

LOAEL - Lowest Observed Adverse Effect Level

vPvB - Very Persistent and Very Bioaccumulative

WEL – Workplace Exposure Limit

Limit Value Legal Basis*

*Includes the below and any related regulations/provisions, and subsequent amendments

United Kingdom - EH40 - EH40/2005 Containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) (as amended)

Glossary of Data Source Abbreviations

ATSDR: Agency for Toxic Substances and Disease Registry (U.S. Department of Health and Human Services)

AU_WES: Australia WES

CHEMVIEW: ChemView (U.S. Environmental Protection Agency)

EC_RAR: European Commission Renewal Assessment Report

EC_SCOEL: European Commission Scientific Committee on Occupational Exposure Limits

ECETOC: European Centre for Ecotoxicology and Toxicology of Chemicals Reports

ECHA_API: European Chemicals Agency API

ECHA_RAC: ECHA Committee for Risk Assessment

EFSA: European Food Safety Authority

EPA: U.S. Environmental Protection Agency

EPA_AEGL: Acute Exposure Guideline Levels (U.S. Environmental Protection Agency)

EPA_FIFRA: Federal Insecticide, Fungicide, and Rodenticide Act

Reregistration Eligibility Decision (U.S. Environmental Protection Agency)

EPA_HPVC: High Production Volume Chemicals (U.S. Environmental Protection Agency)

EPA_TRED: Risk Assessment for Tolerance Reassessment Eligibility Decision (U.S. Environmental Protection Agency)

EU_CLH: European Union Harmonised Classification and Labelling Proposal

EU_RAR: European Union Risk Assessment Report

FOOD_JOURN: Food Research Journal (1956)

IARC: The International Agency for Research on Cancer

IDLH: National Institute for Occupational Health and Safety Immediately Dangerous to Life or Health Value Profiles

IUCLID: International Uniform Chemical Information Database

JAPAN_GHS: Japan GHS Basis for Classification Data

JP_J-CHECK: Japan J-Check

KR_NIER: South Korea National Institute of Environmental Research Evaluations

NICNAS: Australia National Industrial Chemicals Notification and Assessment Scheme

NIOSH: National Institute for Occupational Health and Safety (U.S. Department of Health and Human Services)

NLM_CIP: National Library of Medicine ChemID plus database

NLM_HSDB: National Library of Medicine Hazardous Substance Data Bank

NLM_PUBMED: National Library of Medicine PubMed database

NTP: National Toxicology Program

NZ_CCID: New Zealand Chemical Classification and Information Database

OECD_EHSP: Environment, Health, and Safety Publication (Organisation for Economic Co-operation and Development)

OECD_SIDS: Screening Information Data Sets (Organisation for Economic Co-operation and Development)

WHO: World Health Organization

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.

UK GHS SDS