Bisley International LLC

Chemwatch: 4143-47 Version No: 5.1

Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Chemwatch Hazard Alert Code: 1

Issue Date: **01/08/2018**Print Date: **11/10/2021**S.GHS.USA.EN

SECTION 1 Identification

Product Identifier	
Product name	DECABROMODIPHENYLETHANE
Chemical Name	decabromodiphenylethane
Synonyms	C14-H4-Br14; 1,1'-(ethane-1,2-diyl)bis(pentabromobenzene); benzene, 1'-(1,2-ethanediyl)bis(2,3,4,5,6-pentabromo-; 1,2-bis(pentabromophenyl)ethane; bi(pentabromodiphenyl)ethane; decabromodiphenyl ethane; Firemaster 2100C; Saytex 8010; FR-1410; flame retardant; Great Lakes Firemaster 2100
Chemical formula	C14-H4-Br10
Other means of identification	Not Available
CAS number	84852-53-9

Recommended use of the chemical and restrictions on use

Relevant identified uses	Fire retardant in styrenic polymers, engineering resins, wire & cable and elastomers [~Fire ~]

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	Bisley International LLC
Address	1790 Hughes Landing Boulevard Suite 400 The Woodlands TX 77380 United States
Telephone	+1 (844) 424 7539
Fax	Not Available
Website	www.bisley.biz
Email	compliance@bisley.biz

Emergency phone number

Association / Organisation	Bisley International LLC	CHEMWATCH EMERGENCY RESPONSE
Emergency telephone numbers	+1 855 237 5573	+61 2 9186 1132
Other emergency telephone numbers	+61 2 9186 1132	+1 855-237-5573

Once connected and if the message is not in your prefered language then please dial 01

Una vez conectado y si el mensaje no está en su idioma preferido, por favor marque 02

SECTION 2 Hazard(s) identification

Classification of the substance or mixture

Not considered a Hazardous Substance by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200). Not classified as Dangerous Goods for transport purposes.

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

Classification	Not Applicable
Label elements	
Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

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Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 Composition / information on ingredients

Substances

CAS No	%[weight]	Name
84852-53-9	>98	decabromodiphenylethane

Mixtures

See section above for composition of Substances

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with eyes: • Wash out immediately with water. • If irritation continues, seek medical attention. • Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin or hair contact occurs: Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation	 If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.
Ingestion	 Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Fire-fighting measures

Extinguishing media

- ▶ Foam
- Dry chemical powder.
- ▶ BCF (where regulations permit).
- Carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Special protective equipment and precautions for fire-fighters

Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Fire Fighting Prevent, by any means available, spillage from entering drains or water courses. Use water delivered as a fine spray to control fire and cool adjacent area. carbon monoxide (CO) carbon dioxide (CO2) hydrogen bromide other pyrolysis products typical of burning organic material. Flame retardants may not themselves be immune from combustion but will quickly self-extinguish under fire normal conditions. Their thermal degradation products may be be required to break the combustion cycle of materials in which they are found. When materials burn they introduce Fire/Explosion Hazard flammable gases into the immediate environment, The gas flame itself is maintained by the action of high energy "radicals" (that is H+ and OH- in the gas phase) which decompose molecules to give free carbon. This free carbon may react with oxygen in air to "burn" to CO2, generating heat energy. May emit poisonous fumes. May emit corrosive fumes. Decomposes on heating and produces acrid and toxic fumes of:

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SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

Minor Spills

- ► Clean up all spills immediately.
- Avoid breathing dust and contact with skin and eyes.
- ▶ Wear protective clothing, gloves, safety glasses and dust respirator.
- Use dry clean up procedures and avoid generating dust.

Major Spills

Moderate hazard.

- **CAUTION**: Advise personnel in area.
- Alert Emergency Services and tell them location and nature of hazard.
- Control personal contact by wearing protective clothing.

Personal Protective Equipment advice is contained in Section 8 of the SDS.

SECTION 7 Handling and storage

Precautions for safe handling

- ▶ Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- ▶ Use in a well-ventilated area.

Safe handling

- ▶ Prevent concentration in hollows and sumps.
- Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions)
- Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame.
- Establish good housekeeping practices.
- ▶ Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds.

Other information

- Store in original containers.
 Keep containers securely sealed.
 - ▶ Store in a cool, dry area protected from environmental extremes.
 - ▶ Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

Suitable container

- Polyethylene or polypropylene container.
- ► Check all containers are clearly labelled and free from leaks.

Storage incompatibility

Avoid reaction with oxidising agents















- X Must not be stored together
- May be stored together with specific preventions
- + May be stored together

Note: Depending on other risk factors, compatibility assessment based on the table above may not be relevant to storage situations, particularly where large volumes of dangerous goods are stored and handled. Reference should be made to the Safety Data Sheets for each substance or article and risks assessed accordingly.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Limits (PELs) Table Z-3	decabromodiphenylethane	Inert or Nuisance Dust: Respirable fraction	5 mg/m3 / 15 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-3	decabromodiphenylethane	Inert or Nuisance Dust: Total Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	decabromodiphenylethane	Particulates Not Otherwise Regulated (PNOR)- Total dust	15 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Limits (PELs) Table Z-1	decabromodiphenylethane	Particulates Not Otherwise Regulated (PNOR)- Respirable fraction	5 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	decabromodiphenylethane	Particulates not otherwise regulated	Not Available	Not Available	Not Available	See Appendix D

Emergency Limits

Ingredient TEEL-1 TEEL-2 TEEL-3

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Ingredient	TEEL-1	TEEL-2		TEEL-3
DECABROMODIPHENYLETHANE	Not Available	Not Available		Not Available
Ingredient	Original IDLH		Revised IDLH	
decabromodiphenylethane	Not Available		Not Available	

Exposure controls

Appropriate engineering controls

Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:

Process controls which involve changing the way a job activity or process is done to reduce the risk.

Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.

Personal protection









Eye and face protection

- Safety glasses with side shields.
- Chemical goggles.
 - Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

Skin protection

See Hand protection below

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Hands/feet protection

Personal hygiene is a key element of effective hand care.

Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present.

- polychloroprene.
- nitrile rubber.
- butyl rubber.

Body protection

See Other protection below

Other protection

- Overalls.P.V.C apron.
- Barrier cream.
- Skin cleansing cream

Respiratory protection

Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:001, ANSI Z88 or national equivalent)

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- · Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- · Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
- · Use approved positive flow mask if significant quantities of dust becomes airborne.
- Try to avoid creating dust conditions.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties Appearance Off-white, odourless granules or powder; does not mix with water (0.01%). [~White--~] Physical state Relative density (Water = 1) 3.25 Divided Solid Partition coefficient n-octanol Odour Not Available Not Available / water Odour threshold Not Available Auto-ignition temperature (°C) Not Available pH (as supplied) Not Applicable Decomposition temperature Not Available Melting point / freezing point 351-355 Viscosity (cSt) Not Applicable Initial boiling point and boiling Not Applicable Molecular weight (g/mol) 971.23 range (°C) Flash point (°C) Not Available Taste Not Available **Evaporation rate Explosive properties** Not Available Not Applicable Flammability Not Available **Oxidising properties** Not Available Surface Tension (dyn/cm or Upper Explosive Limit (%) Not Available Not Applicable

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Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Negligible
Vapour pressure (kPa)	Negligible	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (%)	Not Applicable
Vapour density (Air = 1)	Not Applicable	VOC g/L	Not Available

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

Inhaled	Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled. If prior damage to the circulatory or nervous systems has occurred or if kidney damage has been sustained, proper screenings should be conducted on individuals who may be exposed to further risk if handling and use of the material result in excessive exposures. The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.
Ingestion	Although ingestion is not thought to produce harmful effects (as classified under EC Directives), the material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (e.g. liver, kidney) damage is evident.
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.
Eye	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result.
Chronic	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. There is some evidence from animal testing that exposure to this material may result in toxic effects to the unborn baby. Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis, caused by particles less than 0.5 micron penetrating and remaining in the lung. Chronic poisoning from ionic bromides has historically resulted from medical use of bromides but not from exposure in the environment or workplace. In the absence of other signs of poisoning, there may be depression, hallucinations and schizophrenia-like psychosis. Bromides may also cause sedation, irritability, agitation, delirium, memory loss, confusion, disorientation, forgetfulness, inability to speak, difficulty speaking, weakness, fatigue, a spinning sensation, stupor, coma, decreased appetite, nausea, vomiting, an acne-like rash on the face (bronchoderma), legs and trunk, swelling of the bronchi and a profuse discharge from the nostrils. There may also be inco-ordination and very brisk reflexes.

	TOXICITY	IRRITATION
decabromodiphenylethane	Dermal (rabbit) LD50: >2000 mg/kg ^[1]	Not Available
	Oral(Rat) LD50; >5000 mg/kg ^[1]	
Legend:	Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

From available experimental data, the potential for polybrominated fire retardants (PBFRs) to cause cancer, hormonal dysfunction and neuro-developmental toxicity are of concern. Their structural similarities to the polychlorinated diphenyl ethers, nitrofen and polychlorinated biphenyls add to concerns for their health effects. They cause mild eye, airway and skin irritation, damage to the liver, thyroid and sex organs. They can be harmful following prolonged contact with the skin or if swallowed.

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Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. Serious eye damage/ irritation Not irritant Respiratory or skin sensitisation Not a skin sensitizer Not mutagenic by the Ames Test. Did not induce chromosome aberrations in CHL cells when tested up to 5000 ug/mL in the presence or absence of \$9 activation. Not clastogenic in chromosome aberration test with Human lymphocytes. Developmental toxicity Decabromodiphenyl ethane did not induce developmental effects in rats at doses up to 1250 mg/kg/d administered prenatally. (STOT) - Single exposure No effects on specific target organs have been identified (STOT) - Repeat exposure NOAEL 1000 mg/kg/day (13 weeks oral,rat) Does not meet classification criteria. *ICL SDS

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Specific Target Organ Toxicity

Acute Toxicity	×	Carcinogenicity	×
Skin Irritation/Corrosion	×	Reproductivity	×

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			A. Control of the Con
Serious Eye Damage/Irritation	X	STOT - Single Exposure	×
Respiratory or Skin sensitisation	×	STOT - Repeated Exposure	×
Mutagenicity	×	Aspiration Hazard	×

Legend:

X − Data either not available or does not fill the criteria for classification

 Data available to make classification

SECTION 12 Ecological information

Toxicity

decabromodiphenylethane	Endpoint NOEC(ECx)	Test Duration (hr) 504h	Species Fish	Value 32.5mg/L	Source 4
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

For Polybrominated Fire Retardants (PBFR):

Environmental Fate: Release to the environment will be slow and diffuse over the life of products containing PBFRs. PBFRs are expected to be microbially and abiotically stable. Bioaccumulation is not anticipated with octabromodiphenyl ethers (OBDPE) and decabromodiphenyl ethers (DBDPE) while hexabromocyclododecane (HBCD) has the potential to bioaccumulate. Tetrabromobisphenol A (TBBPA) has not been found in environmental biological samples.

DO NOT discharge into sewer or waterways

Not readily biodegradable Not bioaccumulative Fish LC50 (96 h): >100 mg/l Daphnia magna EC50 (>110 mg/l) Algae IC50 (96 h): >110 mg/l

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods

Product / Packaging disposal

Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.

A Hierarchy of Controls seems to be common - the user should investigate:

- Reduction
- Reuse
- ► Recycling
- Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.

- ► DO NOT allow wash water from cleaning or process equipment to enter drains
- It may be necessary to collect all wash water for treatment before disposal.
- In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- ▶ Where in doubt contact the responsible authority.

SECTION 14 Transport information

Labels Required

Marine Pollutant NO

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
decabromodiphenylethane	Not Available

Transport in bulk in accordance with the ICG Code

Broduct name	Shin Tuno
Product name	Ship Type

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Product name	Ship Type
decabromodiphenylethane	Not Available

SECTION 15 Regulatory information

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

decabromodiphenylethane is found on the following regulatory lists
Chemical Footprint Project - Chemicals of High Concern List
US - California - Biomonitoring - Priority Chemicals
US NIOSH Recommended Exposure Limits (RELs)
US OSHA Permissible Exposure Limits (PELs) Table Z-1
US OSHA Permissible Exposure Limits (PELs) Table Z-3

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US TSCA Chemical Substance Inventory - Interim List of Active Substances
US TSCA New Chemical Exposure Limits (NCEL)
US TSCA Section 12(b) - List of Chemical Substances Subject to Export Notification
Requirements
US TSCA Section 5(a)(2) - Significant New Use Rules (SNURs)

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Section 311/312 hazard categories

Flammable (Gases, Aerosols, Liquids, or Solids)	No
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	No
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	No
Respiratory or Skin Sensitization	No
Serious eye damage or eye irritation	No
Specific target organ toxicity (single or repeated exposure)	No
Aspiration Hazard	No
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)

None Reported

State Regulations

US. California Proposition 65

None Reported

National Inventory Status

National Inventory Status			
National Inventory	Status		
Australia - AIIC / Australia Non-Industrial Use	No (decabromodiphenylethane)		
Canada - DSL	No (decabromodiphenylethane)		
Canada - NDSL	No (decabromodiphenylethane)		
China - IECSC	Yes		
Europe - EINEC / ELINCS / NLP	Yes		
Japan - ENCS	Yes		
Korea - KECI	Yes		
New Zealand - NZIoC	Yes		
Philippines - PICCS	Yes		
USA - TSCA	Yes		
Taiwan - TCSI	Yes		
Mexico - INSQ	No (decabromodiphenylethane)		

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National Inventory	Status		
Vietnam - NCI	Yes		
Russia - FBEPH	No (decabromodiphenylethane)		
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.		

SECTION 16 Other information

Revision Date	01/08/2018
Initial Date	02/01/2006

SDS Version Summary

Version	Date of Update	Sections Updated
4.1	27/06/2017	Supplier Information
5.1	01/08/2018	Chronic Health, Classification, Disposal, Environmental, Fire Fighter (fire/explosion hazard), First Aid (inhaled), Physical Properties, Storage (storage requirement), Supplier Information, Synonyms, Toxicity and Irritation (Other)

Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Definitions and abbreviations

PC-TWA: Permissible Concentration-Time Weighted Average

PC-STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit。

IDLH: Immediately Dangerous to Life or Health Concentrations

ES: Exposure Standard

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value

LOD: Limit Of Detection

OTV: Odour Threshold Value BCF: BioConcentration Factors

BEI: Biological Exposure Index

AIIC: Australian Inventory of Industrial Chemicals

DSL: Domestic Substances List

NDSL: Non-Domestic Substances List

IECSC: Inventory of Existing Chemical Substance in China

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

NLP: No-Longer Polymers

ENCS: Existing and New Chemical Substances Inventory

KECI: Korea Existing Chemicals Inventory

NZIoC: New Zealand Inventory of Chemicals

PICCS: Philippine Inventory of Chemicals and Chemical Substances

TSCA: Toxic Substances Control Act

TCSI: Taiwan Chemical Substance Inventory

INSQ: Inventario Nacional de Sustancias Químicas

NCI: National Chemical Inventory

FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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