HEXACHLOROBENZENE

Safety Data Sheet

according to Regulation (EC) No. 1907/2006 (REACH) with its amendment Regulation (EU) 2020/878
Issue date: 16/04/2015 Revision date: 20/03/2024 Supersedes version of: 06/08/2019 Version: 11.0

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

1.1. Product identifier

Product form	:	Substance
Substance name	:	HEXACHLOROBENZENE
Chemical name	:	hexachlorobenzene
EC Index-No.	:	602-065-00-6
EC-No.	:	204-273-9
CAS-No.	:	118-74-1
Product code	:	B2019
Product group	:	End product

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

1.2.1. Relevant identified uses

Main use category	:	Professional use
Use of the substance/mixture	:	Laboratory chemicals
Function or use category	:	Laboratory chemicals

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Elemental Microanalysis Ltd
1 Hameldown Road
Okehampton, Devon, EX20 1UB
GB United Kingdom
T +44 1837 54446
enquiries@microanalysis.co.uk, https://www.elementalmicroanalysis.com/

1.4. Emergency telephone number

Emergency number	:	+44 (0) 7990 767375

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

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

Carcinogenicity, Category 1B	H350
Specific target organ toxicity – Repeated exposure, Category 1	H372
Hazardous to the aquatic environment – Acute Hazard, Category 1	H400
Hazardous to the aquatic environment – Chronic Hazard, Category 1	H410

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

Adverse physicochemical, human health and environmental effects

May cause cancer. Causes damage to organs through prolonged or repeated exposure. Very toxic to aquatic life with long lasting effects.

2.2. Label elements

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

Hazard pictograms (CLP) :

GHS08 GHS09

Signal word (CLP) : Danger

Hazard statements (CLP)	:	H350 - May cause cancer. H372 - Causes damage to organs through prolonged or repeated exposure. H410 - Very toxic to aquatic life with long lasting effects.
Precautionary statements (CLP)	:	P201 - Obtain special instructions before use. P264 - Wash hands thoroughly after handling. P280 - Wear eye protection, protective clothing, protective gloves. P308+P313 - IF exposed or concerned: Get medical advice/attention. P314 - Get medical advice/attention if you feel unwell. P391 - Collect spillage.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
HEXACHLOROBENZENE	CAS-No.: 118-74-1 EC-No.: 204-273-9 EC Index-No.: 602-065-00-6	100	Carc. 1B, H350 STOT RE 1, H372 Aquatic Acute 1, H400 Aquatic Chronic 1, H410

Full text of H- and EUH-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	:	IF exposed or concerned: Get medical advice/attention.
First-aid measures after inhalation	:	Remove person to fresh air and keep comfortable for breathing.
First-aid measures after skin contact	:	Wash skin with plenty of water.
First-aid measures after eye contact	:	Rinse eyes with water as a precaution.
First-aid measures after ingestion	:	Call a poison center or a doctor if you feel unwell.

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

No additional information available

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	:	Water spray. Dry powder. Foam.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	:	Toxic fumes may be released.

5.3. Advice for firefighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Only qualified personnel equipped with suitable protective equipment may intervene. Do not breathe dust/fume/gas/mist/vapours/spray.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Collect spillage.

Methods for cleaning up : Mechanically recover the product. Notify authorities if product enters sewers or public waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Take all necessary technical measures to avoid or minimize the release of the product on the workplace. Limit quantities of product at the minimum necessary for handling and limit the number of exposed workers. Provide local exhaust or general room ventilation. Wear personal protective equipment. Floors, walls and other surfaces in the hazard area must be cleaned regularly. Do not breathe dust/fume/gas/mist/vapours/spray.

Hygiene measures : Separate working clothes from town clothes. Launder separately. Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store locked up. Store in a well-ventilated place. Keep cool.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.1.1 National occupational exposure and biological limit values

HEXACHLOROBENZENE (118-74-1)	
EU - Indicative Occupational Exposure Limit (IOEL)	
Local name	Hexachlorobenzene

HEXACHLOROBENZENE (118-74-1)	
Remark	Skin. (Year of adoption 2016)
Regulatory reference	SCOEL Recommendations
EU - Biological Limit Value (BLV)	
Local name	Hexachlorobenzene
BLV	150 µg/l Parameter: hexachlorobenzene - Medium: serum or plasma
Regulatory reference	SCOEL List of recommended health-based BLVs and BGVs

8.1.2. Recommended monitoring procedures

No additional information available

8.1.3. Air contaminants formed

No additional information available

8.1.4. DNEL and PNEC

No additional information available

8.1.5. Control banding

No additional information available

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:
Ensure good ventilation of the work station.

8.2.2. Personal protection equipment

Personal protective equipment symbol(s):

8.2.2.1. Eye and face protection

Eye protection:
Safety glasses

8.2.2.2. Skin protection

Skin and body protection:
Wear suitable protective clothing

Hand protection:
Protective gloves

8.2.2.3. Respiratory protection

Respiratory protection:
[In case of inadequate ventilation] wear respiratory protection.

8.2.2.4. Thermal hazards

No additional information available

8.2.3. Environmental exposure controls

Environmental exposure controls:
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	:	Solid
Colour	:	white.
Molecular mass	:	284.78 g/mol
Odour	:	Characteristic odour.
Odour threshold	:	Not available
Melting point	:	231 °C Source: ICSC
Freezing point	:	Not applicable
Boiling point	:	323 – 326 °C Source: ICSC
Flammability	:	Non flammable.
Explosive limits	:	Not applicable
Lower explosion limit	:	Not applicable
Upper explosion limit	:	3.5 – 6.7 % Source: UNI. AKRON
Flash point	:	242 °C Source: ICSC
Auto-ignition temperature	:	No data available.
Decomposition temperature	:	Not available
pH	:	No data available.
pH solution	:	Not available
Viscosity, kinematic	:	Not applicable
Solubility	:	Water: 0.0000005 g/100ml at 25°C Source: ICSC
Partition coefficient n-octanol/water (Log Kow)	:	Not available
Partition coefficient n-octanol/water (Log Pow)	:	5.5 – 6.2 Source: ICSC
Vapour pressure	:	0.001 Pa at 20°C Source: ICSC
Vapour pressure at 50°C	:	Not available
Density	:	Not available
Relative density	:	1.21 Source: ICSC
Relative vapour density at 20°C	:	9.8 Source: ICSC
Particle size	:	Not available

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No additional information available

9.2.2. Other safety characteristics

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

No additional information available

10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Not classified

HEXACHLOROBENZENE (118-74-1)	
LD50 oral rat	10000 mg/kg Source: RTECS
LD50 oral	1700 mg/kg

Skin corrosion/irritation : Not classified
pH: No data available.

Serious eye damage/irritation : Not classified
pH: No data available.

Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : May cause cancer.

HEXACHLOROBENZENE (118-74-1)	
IARC group	2B - Possibly carcinogenic to humans

Reproductive toxicity : Not classified
STOT-single exposure : Not classified
STOT-repeated exposure : Causes damage to organs through prolonged or repeated exposure.
Aspiration hazard : Not classified

HEXACHLOROBENZENE (118-74-1)	
Viscosity, kinematic	Not applicable

11.2. Information on other hazards

No additional information available

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : Very toxic to aquatic life with long lasting effects.
Hazardous to the aquatic environment, short–term (acute) : Very toxic to aquatic life.
Hazardous to the aquatic environment, long–term (chronic) : Very toxic to aquatic life with long lasting effects.
Not rapidly degradable

HEXACHLOROBENZENE (118-74-1)	
LC50 - Fish [1]	12 mg/l Source: ECOTOX
EC50 - Other aquatic organisms [1]	0.005 mg/l
EC50 96h - Algae [1]	< 0.03 mg/l Source: ECOTOX

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

HEXACHLOROBENZENE (118-74-1)	
Partition coefficient n-octanol/water (Log Pow)	5.5 – 6.2 Source: ICSC

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Endocrine disrupting properties

No additional information available

12.7. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

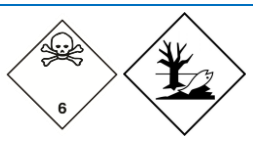
13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

HP Code : HP5 - "Specific Target Organ Toxicity (STOT)/Aspiration Toxicity:" waste which can cause specific target organ toxicity either from a single or repeated exposure, or which cause acute toxic effects following aspiration.
HP7 - "Carcinogenic:" waste which induces cancer or increases its incidence
HP14 - "Ecotoxic:" waste which presents or may present immediate or delayed risks for one or more sectors of the environment

SECTION 14: Transport information

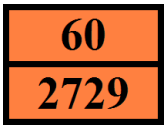
In accordance with ADR / IMDG / IATA / ADN / RID

ADR	IMDG	IATA	ADN	RID
14.1. UN number or ID number				
UN 2729	UN 2729	UN 2729	UN 2729	UN 2729
14.2. UN proper shipping name				
HEXACHLOROBENZENE (HEXACHLOROBENZENE)	HEXACHLOROBENZENE (HEXACHLOROBENZENE)	Hexachlorobenzene (HEXACHLOROBENZENE)	HEXACHLOROBENZENE (HEXACHLOROBENZENE)	HEXACHLOROBENZENE (HEXACHLOROBENZENE)
Transport document description				
UN 2729 HEXACHLOROBENZENE (HEXACHLOROBENZENE), 6.1, III, (E), ENVIRONMENTALLY HAZARDOUS	UN 2729 HEXACHLOROBENZENE (HEXACHLOROBENZENE), 6.1, III, MARINE POLLUTANT/ENVIRONMENTALLY HAZARDOUS	UN 2729 Hexachlorobenzene (HEXACHLOROBENZENE), 6.1, III, ENVIRONMENTALLY HAZARDOUS	UN 2729 HEXACHLOROBENZENE (HEXACHLOROBENZENE), 6.1, III, ENVIRONMENTALLY HAZARDOUS	UN 2729 HEXACHLOROBENZENE (HEXACHLOROBENZENE), 6.1, III, ENVIRONMENTALLY HAZARDOUS
14.3. Transport hazard class(es)				
6.1	6.1	6.1	6.1	6.1
				
14.4. Packing group				
III	III	III	III	III

ADR	IMDG	IATA	ADN	RID
14.5. Environmental hazards				
Dangerous for the environment: Yes	Dangerous for the environment: Yes Marine pollutant: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes	Dangerous for the environment: Yes
No supplementary information available				

14.6. Special precautions for user

Overland transport

Classification code (ADR)	:	T2
Limited quantities (ADR)	:	5kg
Excepted quantities (ADR)	:	E1
Packing instructions (ADR)	:	P002, IBC08, LP02, R001
Special packing provisions (ADR)	:	B3
Mixed packing provisions (ADR)	:	MP10
Portable tank and bulk container instructions (ADR)	:	T1
Portable tank and bulk container special provisions (ADR)	:	TP33
Tank code (ADR)	:	SGAH
Tank special provisions (ADR)	:	TU15, TE19
Vehicle for tank carriage	:	AT
Transport category (ADR)	:	2
Special provisions for carriage - Bulk (ADR)	:	VC1, VC2, AP7
Special provisions for carriage - Loading, unloading and handling (ADR)	:	CV13, CV28
Special provisions for carriage - Operation (ADR)	:	S9
Hazard identification number (Kemler No.)	:	60
Orange plates	:	
Tunnel restriction code (ADR)	:	E
EAC code	:	2Z

Transport by sea

Limited quantities (IMDG)	:	5 kg
Excepted quantities (IMDG)	:	E1
Packing instructions (IMDG)	:	P002, LP02
IBC packing instructions (IMDG)	:	IBC08
IBC special provisions (IMDG)	:	B3
Tank instructions (IMDG)	:	T1
Tank special provisions (IMDG)	:	TP33
EmS-No. (Fire)	:	F-A
EmS-No. (Spillage)	:	S-A
Stowage category (IMDG)	:	A
Properties and observations (IMDG)	:	White needle-like crystals. Insoluble in water. Decomposes when heated, evolving highly toxic fumes. Toxic if swallowed, by skin contact or by dust inhalation.

Air transport

PCA Excepted quantities (IATA)	:	E1
PCA Limited quantities (IATA)	:	Y645
PCA limited quantity max net quantity (IATA)	:	10kg
PCA packing instructions (IATA)	:	670
PCA max net quantity (IATA)	:	100kg
CAO packing instructions (IATA)	:	677
CAO max net quantity (IATA)	:	200kg
ERG code (IATA)	:	6L

Inland waterway transport

Classification code (ADN)	:	T2
Special provisions (ADN)	:	802
Limited quantities (ADN)	:	5 kg
Excepted quantities (ADN)	:	E1
Equipment required (ADN)	:	PP, EP
Number of blue cones/lights (ADN)	:	0

Rail transport

Classification code (RID)	:	T2
Limited quantities (RID)	:	5kg
Excepted quantities (RID)	:	E1
Packing instructions (RID)	:	P002, IBC08, LP02, R001
Special packing provisions (RID)	:	B3
Mixed packing provisions (RID)	:	MP10
Portable tank and bulk container instructions (RID)	:	T1
Portable tank and bulk container special provisions (RID)	:	TP33
Tank codes for RID tanks (RID)	:	SGAH
Special provisions for RID tanks (RID)	:	TU15
Transport category (RID)	:	2
Special provisions for carriage – Bulk (RID)	:	VC1, VC2, AP7
Special provisions for carriage - Loading, unloading and handling (RID)	:	CW13, CW28, CW31
Colis express (express parcels) (RID)	:	CE11
Hazard identification number (RID)	:	60

14.7. Maritime transport in bulk according to IMO instruments

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

REACH Annex XVII (Restriction List)

Not listed on REACH Annex XVII

REACH Annex XIV (Authorisation List)

Not listed on REACH Annex XIV (Authorisation List)

REACH Candidate List (SVHC)

Not listed on the REACH Candidate List

PIC Regulation (Prior Informed Consent)

Listed on the PIC list (Regulation EU 649/2012): Hexachlorobenzene

POP Regulation (Persistent Organic Pollutants)

Listed on the POP list (Regulation EU 2019/1021): hexachlorobenzene

Ozone Regulation (1005/2009)

Not listed on the Ozone Depletion list (Regulation EU 1005/2009)

Explosives Precursors Regulation (2019/1148)

Contains no substance(s) listed on the Explosives Precursors list (Regulation EU 2019/1148 on the marketing and use of explosives precursors)

Drug Precursors Regulation (273/2004)

Contains no substance(s) listed on the Drug Precursors list (Regulation EC 273/2004 on the manufacture and the placing on market of certain substances used in the illicit manufacture of narcotic drugs and psychotropic substances)

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
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
BLV	Biological limit value
BOD	Biochemical oxygen demand (BOD)
COD	Chemical oxygen demand (COD)
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC-No.	European Community number
EC50	Median effective concentration
EN	European Standard
IARC	International Agency for Research on Cancer
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration
NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OECD	Organisation for Economic Co-operation and Development
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
STP	Sewage treatment plant
ThOD	Theoretical oxygen demand (ThOD)
TLM	Median Tolerance Limit
VOC	Volatile Organic Compounds
CAS-No.	Chemical Abstract Service number
N.O.S.	Not Otherwise Specified
vPvB	Very Persistent and Very Bioaccumulative
ED	Endocrine disruptor

Full text of H- and EUH-statements:	
Aquatic Acute 1	Hazardous to the aquatic environment – Acute Hazard, Category 1
Aquatic Chronic 1	Hazardous to the aquatic environment – Chronic Hazard, Category 1
Carc. 1B	Carcinogenicity, Category 1B
H350	May cause cancer.
H372	Causes damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
STOT RE 1	Specific target organ toxicity – Repeated exposure, Category 1

The classification complies with : ATP 12

Safety Data Sheet (SDS)_EMAL, EU

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.