



Safety Data Sheet

Chlorendic Anhydride SELECT

Product No: 2330052

Version: 1.0 / EN
Revision date: June 1, 2026

SECTION 1: Identification

1.1 Product identifier

Chlorendic Anhydride SELECT

Chemical Name and Synonym:

1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-ene-2,3-dicarboxylic anhydride;
4,5,6,7,8,8-Hexachloro-3a,4,7,7a-tetrahydro-4,7-methanoiso benzofuran-1,3-dione

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

1.2.1 Relevant identified uses:

Industrial applications: Hardener for epoxy resins, paints, and coatings.
Other non-specified industry: Flame retardant in unsaturated polyester resins.

1.2.2 Uses advised against:

No specific uses advised against have been identified.

1.3 Details of the supplier of the safety data sheet

Velsicol Chemical LLC
10400 W. Higgins Road, Suite 303
Rosemont, Illinois 60018 USA
Phone: 877-847-8351
Email: customerservice@velsicol.com

1.4 Emergency telephone number

Outside the continental U.S.A. call CHEMTREC 1-800-424-9300 (24 hours)
In the continental U.S.A. call CHEMTREC 703-527-3887 (24 hours)

SECTION 2: Hazards identification

2.1 Hazard classification and Hazard statement(s)

Hazard classification	Hazard statement(s)
Skin Irritation 2	Causes skin irritation
Skin Sensitization 1	May cause an allergic skin reaction
Eye Irritation 2A	Causes serious eye irritation
Specific Target Organ Toxicity (STOT) Single Exposure 3	May cause Respiratory Irritation
Aquatic Chronic 3	May cause long lasting harmful effects to aquatic life.

2.2 Precautionary statements

- Avoid breathing dust.
- Wash any possible exposed area on body thoroughly after handling.
- Wear protective gloves/protective clothing/eye protection/face protection.
- Wash contaminated clothing before reuse.
- Take off contaminated clothing and wash it before reuse.
- Contaminated work clothing must not be allowed out of the workplace.
- Store in a well-ventilated place. Keep container tightly closed
- Avoid release to the environment.
- If on skin: Wash with soap and plenty of water. Remove contaminated clothing and shoes.
- If skin irritation or rash occurs: Get medical advice/attention.

- If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- If eye irritation persists: Get medical advice/attention.
- Get medical advice/attention if you feel unwell.
- Dispose of contents/container in accordance with local/regional/national/international regulation

2.3 Signal Word

Warning

2.4 Pictograms



GHS07

2.5 Other hazards

Not known.

SECTION 3: Composition/information on ingredients:

3.1 Substances:

Chemical Name	Common name and synonyms	CAS number	% by Weight
4,7-Methanoisobenzofuran-1,3-dione, 4,5,6,7,8,8-hexachloro-3a,4,7,7a-tetrahydro-	Chlorendic Anhydride 1,4,5,6,7,7-hexachloro-8,9,10-trinorborn-5-ene-2,3-dicarboxylic anhydride	115-27-5	>95

3.2 Impurities and stabilizing additives:

Chemical Name	Common name and synonyms	CAS number	% by Weight
2,5-Furandione	Maleic anhydride	108-31-6	<1.0
Benzene, chloro-	Chlorobenzene	108-90-7	<5.0

SECTION 4: First-aid measures

4.1 Description of first aid measures

4.1.1 General information:

anhydride. This material is irritating to the eyes, skin and respiratory tract.

4.1.2 Following inhalation:

Remove to under fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention.

4.1.3 Following skin contact:

Immediately wash skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Destroy contaminated shoes.

4.1.4 Following eye contact:

Immediately flush with plenty of water for at least 15 minutes. Get medical attention immediately.

4.1.5 Following ingestion:



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Get medical attention. Inducing vomiting as directed by medical personnel. NEVER GIVE ANYTHING BY MOUTH TO AN UNCONSCIOUS PERSON.

4.1.6 Self-protection of the first aider:

Wear protective gloves/protective clothing/eye protection/face protection. Avoid release to the environment. Do not get in eyes, on skin, or on clothing. Contaminated work clothing should not be allowed out of the workplace. Get medical attention immediately.

4.1.7 Notes for the doctor:

Not available.

4.2 Most important symptoms and effects, both acute and delayed

Severely irritate to eyes. Causes skin irritation. May cause respiratory irritation.

4.3 Indication of any immediate medical attention and special treatments needed:

Not available.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

- Flammability Properties: Non-flammable. However, this product contains up to 5% occluded Chlorobenzene, which can present a fire hazard if sufficient oxygen and a source of ignition is present.
- Suitable extinguishing media: Not applicable.
- Unsuitable extinguishing media: Not applicable.

5.2 Special hazards arising from the substance or mixture

May give off dust.

5.3 Advice for fire fighters

Fire-fighters should wear protective clothing and Self-Contained Breathing Apparatus (SCBA) with chemical resistant gloves. Firefighting equipment should be thoroughly decontaminated after use.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Wearing of suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing; Removal of ignition sources, provision of sufficient ventilation, control of dust; Evacuate the danger area or to consult an expert.

6.2 Environmental precautions

Do not allow to enter sewers / surface or ground water.
In case of spillage to water course or public sewers inform responsible authorities.

6.3 Methods and materials for containment and clearing up

Stop the leak if possible. Collect spilled material into a suitable container. Avoid raising dust. Label containers and arrange for recovery or disposal. Dispose of contaminated material as hazardous waste. Wash spill area thoroughly with water and detergent.

6.4 References to other sections

See sections 8 and 13 for further advice.

SECTION 7: Handling and storage

7.1 Precautions for safe handling



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- Do not handle until all safety precautions have been read and understood; Wear suitable protective clothing, gloves and eye/face protection.
- Provide ventilation if necessary to minimize exposure. Do not breathe dust/fumes;
- Avoid release to the environment.
- Handle in accordance with good industrial hygiene and safety practices. These practices include avoiding unnecessary exposure and removal of material from eyes, skin, and clothing. Keep away from sources of ignition and sunlight.

7.2 Conditions for safe storage, including any incompatibilities

Store in well-ventilated area away from sources of ignition and direct sunlight; Keep container tightly closed. Store away from food and feeding stuff.

This product contains up to 5% occluded Chlorobenzene, which can present a fire hazard if sufficient oxygen and a source of ignition is present. Ground containers and equipment to avoid static charge accumulation and/or use an inert atmosphere to prevent combustion.

Specific incompatibilities

Keep away from moisture/water.

7.3 Specific end uses(s):

End use name	Substance supplied to that use
Receipt and storage of raw materials	as such (substance itself)
Blending / dissolving of dispersion	as such (substance itself)
Filtering and filling	in a mixture
Waste management	in a mixture
Use in closed batch process	as such (substance itself)
Mixing or blending batches	as such (substance itself)
Transfer of substance	in a mixture
Research and development.	as such (substance itself)

SECTION 8. Exposure controls/personal protection

8.1 Control parameters

No OSHA Permissible Exposure Limits (PELs), or American Conference of Governmental Industrial Hygienists (ACGIH), or Threshold Limit Values (TLVs) available.

DN(M)ELs for workers

Exposure pattern	Route	DNEL / DMEL	(Corrected) Dose descriptor
Acute - systemic effects	Dermal	43 mg/kg bw/day	NOAEL: 1,290 mg/kg bw/day (based on AF of 30)
Acute - systemic effects	Inhalation	299 mg/m ³	NOAEC: 8,970 mg/m ³ (based on AF of 30)
Acute - local effects	Dermal	1 mg/cm ²	LOAEL: 50 mg/cm ² (based on AF of 50)
Acute - local effects	Inhalation	299 mg/m ³	NOAEC: 8,970 mg/m ³ (based on AF of 30)
Long-term - systemic effects	Dermal	3.7 mg/kg bw/day	NOAEL: 1,110.0 mg/kg bw/day (based on AF of 300)
Long-term - systemic effects	Inhalation	15 mg/m ³	NOAEC: 4,500 mg/m ³ (based on AF of 300)
Long-term - local effects	Dermal	0.56 mg/cm ²	NOAEL: 100.80 mg/cm ² (based on AF of 180)
Long-term - local effects	Inhalation	33.23 mg/m ³	NOAEC: 9,969.00 mg/m ³ (based on AF of 300)

DN(M)ELs for the general population

Exposure pattern	Route	DNEL / DMEL	(Corrected) Dose descriptor
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Acute - systemic effects	Dermal	21 mg/kg bw/day	NOAEL: 1,260 mg/kg bw/day (based on AF of 60)
Acute - systemic effects	Inhalation	149 mg/m ³	NOAEC: 8,940 mg/m ³ (based on AF of 60)
Acute - systemic effects	Oral	21 mg/kg bw/day	NOAEL: 1,260 mg/kg bw/day (based on AF of 60)
Acute - local effects	Dermal	0.5 mg/cm ²	LOAEL: 50.0 mg/cm ² (based on AF of 100)
Acute - local effects	Inhalation	0.042 mg/m ³	NOAEC: 50.400 mg/m ³ (based on AF of 1200)
Long-term - systemic effects	Dermal	3 mg/kg bw/day	NOAEL: 1,080 mg/kg bw/day (based on AF of 360)
Long-term - systemic effects	Inhalation	12 mg/m ³	NOAEC: 4,320 mg/m ³ (based on AF of 360)
Long-term - systemic effects	Oral	1.1 mg/kg bw/day	NOAEL: 396.0 mg/kg bw/day (based on AF of 360)
Long-term - local effects	Dermal	0.28 mg/cm ²	NOAEL: 100.80 mg/cm ² (based on AF of 360)
Long-term - local effects	Inhalation	16.62 mg/m ³	NOAEL: 9,972.00 mg/m ³ (based on AF of 600)

PNECs

Environmental protection target	PNEC	Remark
Fresh water	0.097 mg/L	Extrapolation method: assessment factor The LC50 from Acute toxicity to Algae, 97.2 mg/l, was used. This is the worst-case scenario for aquatic toxicity.
Marine water	0.0097 mg/L	
Intermittent release	0.97 mg/L	
Sediment (fresh water)	0.097 mg/kg dw	
Sediment (marine water)	0.0097 mg/kg dw	
Soil (Terrestrial)	0.106 mg/kg dw	Extrapolation method: partition coefficient
Food chain (Oral, mammals)	2.51 mg/kg food	The endpoint used was 90 day sub-acute oral toxicity to rats which gave a result of 226 mg/kg bw/day and has an assessment factor of 90.
Sewage treatment	16.23 mg/L	Extrapolation method: assessment factor

DN(M)EL: Derived No(Minimal) Effect Level; NOAEL(C): No-observed-adverse-effect level (concentration), PNEC: Predicted No-Effect Concentration; AF: Assessment Factor

8.2 Exposure controls

Ventilation must be adequate to maintain the ambient workplace atmosphere.

8.2.1 Appropriate engineering controls:

Provide ventilation if necessary to minimize exposure. If practical use local mechanical exhaust ventilation at sources of air contamination such as open process equipment.

8.2.2 Personal protective measures:

Do not eat, drink, or smoke whilst working. Keep away from foodstuffs, beverages and feed. Remove all contaminated clothing. Wash hands before breaks and at the end of work.

Respiratory protection

A full-face piece respirator with dual organic vapour and particulate matter cartridge is recommended.

Hand Protection

Chemical resistant coveralls, gloves and boot covers. If gloves are damaged during use, remove immediately and wash hands before replacing with new gloves.

Eye and face protection

Safety glasses should be worn when handling this substance.

Skin protection

Aprons or coveralls are recommended. These should be changed after use or if contaminated. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.



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- 8.2.3 Environmental exposure controls:**
Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance: White solid

Odor: Strong odor of aromatic hydrocarbons

Odor threshold: Not known

pH: Not available

Melting point: 235 - 239°C

Boiling point: 266.5 - 322°C

Flashpoint: Not applicable

Evaporation rate: Not applicable

Flammability: Not flammable

Vapor pressure: 2.68 E-03 Pa at 25°C

Vapor density: Not available

Relative density: 1.76

Particle size distribution: 0.1% w/w < 10 µm

Solubility in water: 0.499 g/l for Chlorendic acid, < 2.5 E-03 g/l for Chlorendic anhydride

Solubility in other solvents: Easily soluble in acetone. Soluble in methanol, diethyl ether, n-octanol

Surface tension: 72.0 mN/m (90% saturated solution) due to rapid hydrolysis result for Chlorendic acid.

Partition coefficient: Log Pow = 1.39 (for Chlorendic acid)

Auto ignition temperature: Explosivity study not undertaken as Chlorendic Anhydride is used as a flame retardant.

Decomposition temperature: Not available

Viscosity: Not applicable

Explosive properties: Not considered to be explosive

Oxidizing properties: Not considered to be oxidizing

Dissociation Constant: Study not undertaken as Chlorendic Anhydride readily hydrolyses

Molecular Weight: 371

9.2 Other information:

Chlorendic anhydride rapidly hydrolyses to chlorendic acid in contact with water.

SECTION 10: Stability and reactivity

10.1 Reactivity

Not a reactive substance and no reactive hazards are expected.

No hazardous reaction when handled and stored according to provisions.

10.2 Chemical stability

This substance is stable under normal ambient temperature and conditions.

The substance rapidly (instantaneously) hydrolyses to chlorendic acid in contact with water.

10.3 Others

Possibility of hazardous reactions:

No hazardous reactions expected under normal conditions of use.

Conditions to avoid:

Avoid excessive exposure to heat, direct sunlight and humidity.

Incompatible materials:

Highly reactive with oxidizing agents, organic materials. Slightly reactive to reactive with reducing agents, acids, alkalis. Very slightly to slightly reactive with metals.



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Hazardous decomposition products:
No decomposition if used as directed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

(a) Acute toxicity

This substance is not classified as acute toxic for all exposure route listed below:

Acute Toxicity	Effect Dos /Concentration
Acute Oral Toxicity	LD50: 2562 mg/kg bw (male) LD50: 2130 mg/kg bw (female)
Acute dermal toxicity	LD50: 10000 - 20000 mg/kg bw
Acute inhalative toxicity (dust/mist)	LC50: > 203 mg/l

(b) Skin corrosion/irritation

Causes skin irritation

(c) Serious eye damage/irritation

Causes serious eye irritation

Irritation parameter	Basis	Time point	Score	Max. score	Reversibility	Remarks
overall irritation score	mean	14 days	16.4	17.3	no data	Rabbit

(d) Respiratory/skin sensitisation

May cause an allergic skin reaction

(e) Germ cell mutagenicity

Chlorendic Anhydride is not classified as genetically toxic as all study results are negative.

(f) Carcinogenicity

not classified.

Chlorendic anhydride will rapidly hydrolyse to **chlorendic acid** in the presence of water. The National Toxicology Program (NTP) has concluded that there is clear evidence of carcinogenicity (cancer) in a feeding study of rats and mice using **chlorendic acid**. International Agency for Research on Cancer (IARC) has given **chlorendic acid** an overall evaluation of 2B (possibly carcinogenic).

This substance contains impurity of chlorendic acid (<0.1% w/w) which has no contribution to the classification.

(g) Reproductive toxicity

Chlorendic anhydride is not classified as toxic to reproduction as negative results were obtained in the reproductive and spermatogenetic studies in animals.

Adverse effects on sexual function and fertility:

Species	Result /Evaluation
Mouse	NOEL (Fetal mortality): > 223 mg/kg bw/day (actual dose received)

Adverse effects on developmental toxicity:

Species	Result / Evaluation
Rats	NOEL: 400 mg/kg bw/day (actual dose received); NOEL (maternal toxicity): 100 mg/kg bw/day (nominal)

- (h) **STOT-single exposure**
May cause respiratory irritation
- (i) **STOT-repeated exposure**
Not classified
- (j) **Aspiration hazard**
This substance is a solid.

11.2 Information on other hazards

No data available.

SECTION 12: Ecological information

12.1. Toxicity

May cause long lasting harmful effects to aquatic life.

Acute (short-term) fish toxicity:

- LC50 Oncorhynchus mykiss: 422,7 mg/L/96h (EU Method C. 1)
- LC50 Lepomis macrochirus (Bluegill): 422,7 mg/L/96h (EU Method C.1)
- LC50 (freshwater fish): 422.7 mg/L

Acute Daphnia toxicity:

- EC50 Daphnia magna (Big water flea): 110,7 mg/L/48h (EU Method C.2)

Acute (short-term) toxicity to crustacea:

- EC50/LC50: 110,7 mg/L/48h

Algae toxicity (acute):

- EC50/LC50: 97,2 mg/L/72h (Algal Inhibition test)
- EC10/LC10 or NOEC: 48,4 mg/L/72h (Algal Inhibition test)

Algae toxicity (chronic):

- EC50: >97,2mg/L

Predicted No Effect Concentration (PNEC)

Fresh water	Marine water	Intermittent release	Sediment (fresh water)	Sediment (marine water)	Soil (Terrestrial)	STP (sewage treatment plant)	Oral (mammals)
0.097 mg/L	0.0097 mg/L	0.97 mg/L	0.097 mg/kg dw	0.0097 mg/kg dw	0.106 mg/kg dw	16.23 mg/L	2.51 mg/kg food

12.2 Persistence and degradability

Chlorendic Anhydride is not inherently biodegradable. However, chlorendic anhydride readily hydrolyses to chlorendic acid and is moderately soluble, 0.499 mg/l.

12.3 Bioaccumulative potential

Chlorendic anhydride readily hydrolyses to chlorendic acid (log Kow = 1.39). According to the screening criteria this indicates that chlorendic acid is non-bioaccumulative.

12.4 Mobility in soil

Chlorendic anhydride readily hydrolyses to chlorendic acid. Chlorendic acid shows a low adsorptive (log Koc = 0.92) potential. The fugacity study shows that chlorendic acid undergoes significant degradation. Hence, Chlorendic anhydride is not expected to be a relevant distribution into soil and a considerable exposure to the soil compartment.

12.5 Results of PBT and vPvB assessment

Chlorendic anhydride is not bioaccumulative and is not regarded as a PBT / vPvB.



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- 12.6 Other adverse effects**
No information available.

SECTION 13: Disposal considerations

Recycle to process, if possible. Consult your local or regional authorities for disposal options.

SECTION 14: Transport information

This substance is not under control of ADR, IMDG, IATA and DOT.
Customs Classification: International HTS# 2917.19.70

SECTION 15: Regulatory information

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

This substance included on or exempted from listing on the following inventories:
United States (TSCA), Canada (DSL), Australia (AICS), China (IECSC), European Union (EINECS), Japan (ENCS), Korea (ECI), New Zealand (NZIoC), Philippines (PICCS)

15.2 Chemical Safety Assessment

HMIS Rating

Health: 1 Flammability: 1 Reactivity (Stability): 1 Personal Protection:
Key: 0=Insignificant; 1=Slight; 2=Moderate; 3=High; 4=Extreme.

SECTION 16: Other information

16.1 Indication of changes

06/01/2026 The first SDS of Chlorendic Anhydride SELECT under OSHA Hazard Communication Standard (HCS) (29 CFR 1910.1200 (g))

16.2 Key literature references and sources for data

Hazard Communication Standard (HCS)(29 CFR 1910.1200(g)) and Appendix D
Hazardous Substance Data Bank (HSDB), National library of Medicine, #2920
Dossier and Chemical Safety Report (CSR) submitted to ECHA under REACH
Product Data Sheet and SDS information from manufacturer.

16.3 Classification for mixtures and used evaluation method according to Hazard Communication Standard (HCS)(29 CFR 1910.1200(g)), Not a mixture.

16.4 Training advice

accordance with Hazard Communication Standard (HCS)(29 CFR 1910.1200(g))

16.5 Further information: Notice to Reader

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision.
It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.