

SAFETY DATA SHEET

(GHS, Appendix 4)

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

1.1. Product identifier

Product name : Cyclogalbanate

EC N° : 272-657-3

CAS N° : 68901-15-5

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

Industrial-grade aromatic raw material, not intended for retail sale

1.3. Details of the supplier of the safety data sheet

Registered company name : Aromatics Original Material Co., Ltd.

Address : 3/8 1st floor Bangwaek Rd, Bangpai, Bangkae, Bangkok 10160 Thailand.

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

GHS compliant.

Acute oral toxicity, Category 4 (Acute Tox. 4, H302).

Hazardous to the aquatic environment - Acute hazard, Category 1 (Aquatic Acute 1, H400).

Hazardous to the aquatic environment - Chronic hazard, Category 1 (Aquatic Chronic 1, H410).

This mixture does not present a physical hazard. Refer to the recommendations regarding the other products present on the site.

2.2. Label elements

GHS compliant.

Hazard pictograms :



GHS07



GHS09

Signal Word :

WARNING

Product identifiers (list of classified components) :

CAS 68901-15-5 ALLYL (CYCLOHEXYLOXY)ACETATE

Hazard statements :

H302

Harmful if swallowed.

H410

Very toxic to aquatic life with long lasting effects.

Precautionary statements - Prevention :

P264

Wash ... thoroughly after handling.

2.3. Other hazards

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Composition :

Identification	GHS	Note	%
CAS: 68901-15-5 EC: 272-657-3 ALLYL (CYCLOHEXYLOXY)ACETATE	GHS07, GHS09 Wng Acute Tox. 4, H302 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1		100%
CAS: 107-18-6 EC: 203-470-7 REACH: 01-2119452689-23-0000 ALLYL ALCOHOL	GHS06, GHS09, GHS02 Dgr Flam. Liq. 2, H225 Acute Tox. 3, H301 Acute Tox. 2, H310 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Acute Tox. 2, H330 STOT SE 3, H335 Aquatic Chronic 3, H412 Aquatic Acute 1, H400 M Acute = 1	[1]	0 <= x % < 1

Information on ingredients :

(Full text of H-phrases: see section 16)

[1] Substance for which maximum workplace exposure limits are available.

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

4.1. Description of first aid measures

In the event of splashes or contact with eyes :

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.

In the event of swallowing :

Do not give the patient anything orally.

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water, administer activated medical charcoal and consult a doctor.

Keep the person exposed at rest. Do not force vomiting.

Seek medical attention, showing the label.

If swallowed accidentally, call a doctor to ascertain whether observation and hospital care will be necessary. Show the label.

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

No data available.

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

No data available.

SECTION 5 : FIREFIGHTING MEASURES

Non-flammable.

5.1. Extinguishing media**Suitable methods of extinction**

In the event of a fire, use :

- sprayed water or water mist

Unsuitable methods of extinction

In the event of a fire, do not use :

- water jet

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO₂)

5.3. Advice for firefighters

No data available.

SECTION 6 : ACCIDENTAL RELEASE MEASURES**6.1. Personal precautions, protective equipment and emergency procedures**

Consult the safety measures listed under headings 7 and 8.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

6.3. Methods and material for containment and cleaning up

Clean preferably with a detergent, do not use solvents.

6.4. Reference to other sections

No data available.

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.

7.1. Precautions for safe handling

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Ensure that there is adequate ventilation, especially in confined areas.

Fire prevention :

Handle in well-ventilated areas.

Prevent access by unauthorised personnel.

Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Packages which have been opened must be reclosed carefully and stored in an upright position.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.

7.2. Conditions for safe storage, including any incompatibilities

No data available.

Storage

Keep the container tightly closed in a dry, well-ventilated place.

Keep away from food and drink, including those for animals.

The floor must be impermeable and form a collecting basin so that, in the event of an accidental spillage, the liquid cannot spread beyond this area.

Packaging

Always keep in packaging made of an identical material to the original.

7.3. Specific end use(s)

No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits :

- European Union (2019/1831, 2017/2398, 2017/164, 2009/161, 2006/15/CE, 2000/39/CE, 98/24/CE) :

CAS	VME-mg/m3 :	VME-ppm :	VLE-mg/m3 :	VLE-ppm :	Notes :
107-18-6	4.8	2	12.1	5	Peau

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	0.5 ppm			Skin; A4	

- South Africa / DME (Department of Minerals and Energy, 2006) :

- South Africa / DOL RL (Department of Labour, Recommended limits, 1995) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 ppm 5 mg/ m3	4 ppm 10 mg/ m3		Sk	

- Germany - AGW (BAuA - TRGS 900, 08/08/2019) :

CAS	VME :	VME :	Excess	Notes
107-18-6		2 ppm 4.8 mg/m ³		2.5(I)

- Australia (NOHSC: 3008, 1995) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 ppm 4.8 mg/ m3	4 ppm 9.5 mg/ m3		H	

- Belgium (Arrêté du 19/11/2020) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 ppm 4.8 mg/ m ³	4 ppm 9.6 mg/ m ³		D	

- Canada / Alberta (Occupational health and safety code, 2009) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	0.5 ppm 1.2 mg/m3				

- Canada / British Columbia (2009) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	0.5 ppm				

- Canada / Ontario (Control of exposure to biological or chemical agents, regulation 491/2009) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :

107-18-6	0.5 ppm	-	-	-	-	
- Canada / Quebec (Regulations on occupational health and safety) :						
- China (GBZ 2.1, 2007) :						
CAS	TWA :	STEL :	Anm :	TWA :	STEL :	
107-18-6	2 mg/m ³	3 mg/m ³		Skin		
- Denmark (2020) :						
Stof	TWA	VSTEL	Loftvaerdi	Anm		
107-18-6	2 ppm 4.8 mg/m ³			EH		
- France (INRS - ED984 / 2020-1546) :						
CAS	VME-ppm :	VME-mg/m ³ :	VLE-ppm :	VLE-mg/m ³ :	Notes :	TMP No :
107-18-6	0.2	0.48	2	4.8	*	84
- Finland (HTP-vården 2018) :						
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :	
107-18-6	0.5 ppm 1.2 mg/m ³	2 ppm 4.8 mg/m ³				
- Spain (Instituto Nacional de Seguridad e Higiene en el Trabajo (INSHT), 2019) :						
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :	
107-18-6	2 ppm 5 mg/m ³	5 ppm 12 mg/m ³		via dermica. VLI		
- Hong-Kong (Code of practice on control of air impurities (Chemicals substances) in the workplace, 04/2002) :						
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :	
107-18-6	0.5 ppm	-	-	-	-	
- Ireland (Code of practice for the Chemical Agents Regulations, 2016) :						
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :	
107-18-6	2 ppm 4.8 mg/m ³	5 ppm 12.1 mg/m ³				
- Italy (Decree, 26/02/2004) :						
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :	
107-18-6	2 ppm 4.8 mg/m ³	5 ppm 12.1 mg/m ³		Pelle		
- Japan (JSOH, 17/05/2018) :						
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :	
107-18-6	1 ppm 2.4 mg/m ³					
- Latvia (Regulation No. 325/2007) :						
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :	
107-18-6	2 ppm 4.8 mg/m ³	5 ppm 12.1 mg/m ³		Ada		
- Lithuania (HN 23 :2001) :						
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :	
107-18-6	2 ppm 4.8 mg/m ³	5 ppm 12.1 mg/m ³		O		
- Luxembourg (RGD 14/11/2016, Memorial A n°247 du 8 mars 2017) :						
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :	

107-18-6	2 ppm 4.8 mg/ m ³	5 ppm 12.1 mg/m ³		Peau	
- Malaysia :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	0.5 ppm	-	-	-	-
- Malta (L.N. 353/2007) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 ppm 4.8 mg/ m ³	5 ppm 12.1 mg/m ³		Skin	
- Mexico :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 ppm	4 ppm	-	-	-
- Norway (Veiledning om administrative normer for forurensning i arbeidsatmosfære, 2019) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 ppm 5 mg/m ³			HE	
- New Zealand (Workplace Exposure standards, 2002) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 ppm 4.8 mg/ m ³	4 ppm 9.5 mg/ m ³			
- Netherlands / MAC-waarde (10 december 2014) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	4.8 mg/m ³	12.1 mg/m ³		Huid	
- Poland (Dz. U. z 2018 r. poz. 917, 1000 i 1076) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 mg/m ³	10 mg/m ³			
- Portugal (1.a N° 26 - 06/01/2012) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 ppm 4.8 mg/ m ³	5 ppm 21.1 mg/m ³		Cutânea	
- Czech Republic (Regulation No. 361/2007) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	4 mg/m ³	10 mg/m ³		D. I	
- Slovakia (Règlement 300/2007, 471/2011 23/11/2011) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 ppm 4.8 mg/ m ³	5 ppm 12.1 mg/m ³		K	
- Slovenia (Uradni List, 04/06/2015) :					
CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6		2 ppm 4.8 mg/ m ³		K. EU*	
- Switzerland (SUVAPRO 2019) :					
CAS	VME	VLE	Valeur plafond	Notations	
107-18-6	2 ppm 5 mg/m ³	4 mg/m ³ 10 fc/ m ³			
- Sweden (AFS 2018 :1) :					

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 ppm 5 mg/m ³	5 ppm 12 mg/m ³		H	

- Romania (Hotărâre 1218/2006) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 ppm 4.8 mg/m ³	5 ppm 12.1 mg/m ³			

- UK / WEL (Workplace exposure limits, EH40/2005, Fourth Edition 2020) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 ppm 4.8 mg/m ³	4 ppm 9.7 mg/m ³		Sk	

- USA / NIOSH REL (National Institute for Occupational Safety and Health, Recommended exposure limits) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 ppm	4 ppm	-	-	-

- USA / NIOSH IDLH (National Institute for Occupational Safety and Health, Immediately Dangerous to Life or Health Concentrations) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 ppm 5 mg/m ³	4 ppm 10 mg/m ³		skin	

- USA / OSHA PEL (Occupational Safety and Health Administration, Permissible Exposure Limits) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
107-18-6	2 ppm 5 mg/m ³			skin	

8.2. Exposure controls

Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :



Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles in accordance with standard EN166.

- Hand protection

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN ISO 374-1.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

Type of gloves recommended :

- Butyl Rubber (Isobutylene-isoprene copolymer)

- Body protection

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

No data available.

Physical state

Physical state : Fluid liquid.

Colour

Unspecified

Melting point

Melting point/melting range : Not specified.

Freezing point

Freezing point / Freezing range :

Boiling point or initial boiling point and boiling range

Boiling point/boiling range : Not specified.

Flash point

Flash Point : 100.00 °C.
Method for determining the flash point:
ASTM D 93-15 (Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester).

Auto-ignition temperature

Self-ignition temperature : Not specified.

Decomposition temperature

Decomposition point/decomposition range : Not specified.

pH

pH : Not relevant.

Solubility

Water solubility : Insoluble.

Vapour pressure

Vapour pressure (50°C) : Not stated.

Density and/or relative density

Density : 0,998-1,038@20°C
Method for determining the density :
NF ISO 279:1999 (T75-111)

9.2. Other information

Index of refraction : 1,450-1,470@20°C
Method of determining the refractive index :
NF ISO 280:1999 (T75-112)

9.2.1. Information with regard to physical hazard classes

No data available.

Oxidising liquids

Oxidising properties :

9.2.2. Other safety characteristics

No data available.

SECTION 10 : STABILITY AND REACTIVITY**10.1. Reactivity**

No data available.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

When exposed to high temperatures, the mixture can release hazardous decomposition products, such as carbon monoxide and dioxide, fumes and nitrogen oxide.

10.4. Conditions to avoid

No data available.

10.5. Incompatible materials

No data available.

10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- carbon monoxide (CO)
- carbon dioxide (CO₂)

SECTION 11 : TOXICOLOGICAL INFORMATION**11.1. Information on toxicological effects**

Exposure to vapours from solvents in the mixture in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on kidney, liver and central nervous system.

Symptoms produced will include headaches, numbness, dizziness, fatigue, muscular asthenia and, in extreme cases, loss of consciousness.

Harmful if swallowed.

Repeated or prolonged contact with the mixture may cause removal of natural oil from the skin resulting in non-allergic contact dermatitis and absorption through the skin.

Splashes in the eyes may cause irritation and reversible damage

11.1.1. Substances**Acute toxicity :**

ALLYL ALCOHOL (CAS: 107-18-6)

Dermal route :

LD50 = 89 mg/kg

Species : Rabbit

Inhalation route (Gas) :

LC50 = 165 ppm

Species : Rat

Duration of exposure : 4 h

ALLYL (CYCLOHEXYLOXY)ACETATE (CAS: 68901-15-5)

Oral route :

LD50 = 682 mg/kg

11.1.2 Complex substance

No toxicological data available for the substances.

SECTION 12 : ECOLOGICAL INFORMATION

Very toxic to aquatic life with long lasting effects.

The product must not be allowed to run into drains or waterways.

12.1. Toxicity**12.1.1. Substances**

ALLYL ALCOHOL (CAS: 107-18-6)

Crustacean toxicity :

10 < EC50 ≤ 100 mg/l

Species : *Daphnia magna*

Duration of exposure : 48 h

NOEC > 0.919 mg/l

Species : *Daphnia magna*

Duration of exposure : 21 days

Species : *Anabaena inaequalis*

Algae toxicity :

12.1.2 Complex substance

No aquatic toxicity data available for the substances.

12.2. Persistence and degradability**12.2.1. Substances**

ALLYL ALCOHOL (CAS: 107-18-6)

Biodegradability :

no degradability data is available, the substance is considered as not degrading quickly.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Endocrine disrupting properties

No data available.

12.7. Other adverse effects

No data available.

SECTION 13 : DISPOSAL CONSIDERATIONS

The appropriate waste management of the mixture and/or its container must be determined in accordance with local regulations.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

SECTION 14 : TRANSPORT INFORMATION

	regulation if Q ≤ 5 1 / 5 kg (IMDG 3.3.1 - 2.10.2.7)									
IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ	
	9	-	III	964	450 L	964	450 L	A97 A158 A197 A215	E1	
	9	-	III	Y964	30 kg G	-	-	A97 A158 A197 A215	E1	
	Not subject to this regulation if Q ≤ 5 1 / 5 kg (IATA 4.4.4 - DS A197)									

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

Marine pollutant (IMDG 3.1.2.9):(allyl (cyclohexyloxy)acetate)

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

No data available.

SECTION 15 : REGULATORY INFORMATION

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

The following regulations have been used:

- Globally Harmonized System of Classification and Labelling of Chemicals (GHS), review no. 7 (2017)

- Container information:

No data available.

- Particular provisions :

No data available.

15.2. Chemical safety assessment

No data available.

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

Wording of the phrases mentioned in section 3 :

H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H310	Fatal in contact with skin.
H310 + H330	Fatal in contact with skin or if inhaled.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H330	Fatal if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Abbreviations :

LD50 : The dose of a test substance resulting in 50% lethality in a given time period.
LC50 : The concentration of a test substance resulting in 50% lethality in a given period.
EC50 : The effective concentration of substance that causes 50% of the maximum response.
NOEC : The concentration with no observed effect.
REACH : Registration, Evaluation, Authorization and Restriction of Chemical Substances.
STEL : Short-term exposure limit
TWA : Time Weighted Averages
TMP : French Occupational Illness table
TLV : Threshold Limit Value (exposure)
AEV : Average Exposure Value.
ADR : European agreement concerning the international carriage of dangerous goods by Road.
IMDG : International Maritime Dangerous Goods.
IATA : International Air Transport Association.
ICAO : International Civil Aviation Organisation
RID : Regulations concerning the International carriage of Dangerous goods by rail.
GHS07 : Exclamation mark
GHS09 : Environment
PBT: Persistent, bioaccumulable and toxic.
vPvB : Very persistent, very bioaccumulable.