SAFETY DATA SHEET

(GHS, Appendix 4)

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

1.1. Product identifier

Product name : Geranyl Acetate

EC N° : 203-341-5

CAS N° : 105-87-3

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.

Skin irritation, Category 2 (Skin Irrit. 2, H315).

Skin sensitisation, Category 1 (Skin Sens. 1, H317).

Hazardous to the aquatic environment - Acute hazard, Category 2 (Aquatic Acute 2, H401).

Hazardous to the aquatic environment - Chronic hazard, Category 3 (Aquatic Chronic 3, H412).

This substance 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

Signal Word :

WARNING

Product identifiers (list of classified components) :

CAS 105-87-3	GERANYL ACETATE
CAS 141-12-8	NERYL ACETATE
CAS 106-25-2	NEROL

Hazard statements :

H315	Causes skin irritation.

H317	May cause an allergic skin reaction.
H401	Toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.

Precautionary statements - Prevention :

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/ ...

Precautionary statements - Response :

P302 + P352	IF ON SKIN: Wash with plenty of water/...
P362 + P364	Take off contaminated clothing and wash it before reuse.

2.3. Other hazards

No data available.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Composition :

Identification	GHS	Note	%
CAS: 105-87-3 EC: 203-341-5 GERANYL ACETATE	GHS07 Wng Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Acute 2, H401 Aquatic Chronic 3, H412		100%
CAS: 141-12-8 EC: 205-459-2 NERYL ACETATE	GHS07 Wng Skin Sens. 1B, H317 Aquatic Acute 2, H401		2.5 <= x % < 10
CAS: 106-25-2 EC: 203-378-7 NEROL	GHS07 Wng Acute Tox. 5, H303 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Eye Irrit. 2, H319 Aquatic Acute 2, H401		1 <= x % < 2.5
INDEX: 601-017-00-1 CAS: 110-82-7 EC: 203-806-2 CYCLOHEXANE	GHS02, GHS08, GHS07, GHS09 Dgr Flam. Liq. 2, H225 Asp. Tox. 1, H304 Skin Irrit. 2, H315 STOT SE 3, H336 Aquatic Acute 1, H400 M Acute = 1 Aquatic Chronic 1, H410 M Chronic = 1	[1]	0 <= x % < 1

Information on ingredients :

[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 splashes or contact with skin :

Remove contaminated clothing and wash the skin thoroughly with soap and water or a recognised cleaner.

Watch out for any remaining product between skin and clothing, watches, shoes, etc.

In the event of an allergic reaction, seek medical attention.

If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to hospital.

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 and consult a doctor.

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

Seek medical attention immediately, 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 non first aid worker

Avoid any contact with the skin and eyes.

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 substance is handled.

Individuals with a history of skin sensitisation should not, under any circumstance, handle this substance.

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 substance 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.

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 :
110-82-7	700	200	-	-	-

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	100 ppm				

- 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 :
110-82-7	100 ppm 340 mg/m3	300 ppm 1030 mg/m3			

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

CAS	VME :	VME :	Excess	Notes
110-82-7		200 ppm 700 mg/m³		4(II)

- Australia (NOHSC: 3008, 1995) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	100 ppm 350 mg/m3	300 ppm 1050 mg/m3			

- Belgium (Arrêté du 09/03/2014, 2014) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	100 ppm 350 mg/m³				

- Brazil :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	235 ppm	-	-	-	-

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	100 ppm 344 mg/m3				

- Canada / British Colombia (2009) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	100 ppm				

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	100 ppm	-	-	-	-

- Canada / Quebec (Regulations on occupational health and safety) :
- China (GBZ 2.1, 2007) :

CAS	TWA :	STEL :	Anm :	TWA :	STEL :
110-82-7	250 mg/m3				

- Denmark (2008) :

Stof	TWA	VSTEL	Loftvaerdi	Anm
110-82-7	50 ppm 172 mg/m³			E

- France (INRS - ED984 / 2019-1487) :

CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :
110-82-7	200	700	-	-	-	84

- Finland (HTP-värden 2016) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	100 ppm 350 mg/m³	250 ppm 875 mg/m³			

- Spain (Instituto Nacional de Seguridad e Higiene en el Trabajo (INSHT), 2017) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :

110-82-7	200 ppm 700 mg/m³			VLI. r	

- Greece (90/1999) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7		300 ppm 1050 mg/m3			

- Hong-Kong (Code of practice on control of air impurities (Chemicals substances) in the workplace, 04/2002) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	300 ppm	-	-	-	-

- Ireland (Code of practice for the Chemical Agents Regulations, 2016) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	200 ppm 700 mg/m³				

- Japan (JSOH, 17/05/2018) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	150 ppm 520 mg/m³				

- Latvia (Regulation No. 325/2007) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	23 ppm 80 mg/ m3				

- Lithuania (HN 23 :2001) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	200 ppm 700 mg/m³				

- Luxembourg (RGD 14/11/2016, Memorial A n°247 du 8 mars 2017) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	200 ppm 700 mg/m³	- ppm - mg/m³		-	

- Malaysia :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	300 ppm	-	-	-	-

- Malta (L.N. 353/2007) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	200 ppm 700 mg/m3				

- Mexico :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	300 ppm	375 ppm	-	-	-

- Norway (Veiledning om administrative normer for forurensning i arbeidsatmosfære, 2019) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	150 ppm 525 mg/m³			E	

- New Zealand (Workplace Exposure standards, 2002) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :

110-82-7	100 ppm 350 mg/m3	300 ppm 1050 mg/m3			

- Netherlands / MAC-waarde (10 december 2014) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	700 mg/m³	1400 mg/m³			

- Poland (Dz. U. z 2018 r. poz. 917, 1000 i 1076) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	300 mg/m³	1000 mg/m³			

- Portugal (1.a N° 26 - 06/01/2012) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	200 ppm 700 mg/m³				

- Czech Republic (Regulation No. 361/2007) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	700 mg/m³	2000 mg/m³		I	

- Slovakia (Règlement 300/2007, 471/2011 23/11/2011) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	200 ppm 700 mg/m³				

- Slovenia (Uradni List, 04/06/2015) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7		200 ppm 700 mg/m³			

- Switzerland (SUVAPRO 2017) :

CAS	VME	VLE	Valeur plafond	Notations
110-82-7	200 ppm 700 mg/m³	800 ppm 2800 mg/m³		B

- Sweden (AFS 2018 :1) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	200 ppm 700 mg/m³				

- Romania (Hotarâre 1218/2006) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	200 ppm 700 mg/m3				

- UK / WEL (Workplace exposure limits, EH40/2005, 2011) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	100 ppm 350 mg/m³	300 ppm 1050 mg/m³			

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	300 ppm	-	-	-	-

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :

110-82-7	300 ppm 1050 mg/m3				

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
110-82-7	300 ppm 1050 mg/m3				

- Bulgare

Identification	TWA	STEL	Ceiling	Notations
110-82-7	500 mg/m3			

- Estonie

Identification	Piirnorm	Luhiajalise kokkupuute piirnorm	Piirnormi lagi	Markused
110-82-7	200 ppm 700 mg/m3			

- Hongrie
- Croatia

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 :

- PVA (Polyvinyl alcohol)
- Butyl Rubber (Isobutylene-isoprene copolymer)

Recommended properties :

- Impervious gloves in accordance with standard EN ISO 374-2

- Body protection

Avoid skin contact.

Wear suitable protective clothing.

Suitable type of protective clothing :

In the event of substantial spatter, wear liquid-tight protective clothing against chemical risks (type 3) in accordance with EN14605/A1 to prevent skin contact.

In the event of a risk of splashing, wear protective clothing against chemical risks (type 6) in accordance with EN13034/A1 to prevent skin contact.

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

General information :

Physical state :	Fluid liquid.

Important health, safety and environmental information

pH :	Not relevant.
Boiling point/boiling range :	Not specified.
Flash Point Interval :	> 93°C
	Method for determining the flash point:
	ASTM D 93-15 (Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester).
Vapour pressure (50°C) :	Not stated.
Density :	0,904-0,924@20°C
	Method for determining the density :
	NF ISO 279:1999 (T75-111)
Water solubility :	Insoluble.
Melting point/melting range :	Not specified.
Self-ignition temperature :	Not specified.
Decomposition point/decomposition range :	Not specified.
Index of refraction :	1,457-1,467@20°C
	Method of determining the refractive index :
	NF ISO 280:1999 (T75-112)

9.2. Other information

No data available.

SECTION 10 : STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

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

10.3. Possibility of hazardous reactions

When exposed to high temperatures, the substance 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 this solvent 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.

May cause irreversible damage to the skin; namely inflammation of the skin or the formation of erythema and eschar or oedema following exposure up to four hours.

Repeated or prolonged contact with the substance 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

May cause an allergic reaction by skin contact.

11.1.1. Substances

Acute toxicity :

NEROL (CAS: 106-25-2)

Oral route :	LD50 = 4500 mg/kg

11.1.2 Complex substance

No toxicological data available for the substances.

SECTION 12 : ECOLOGICAL INFORMATION

Harmful to aquatic life with long lasting effects.

Toxic to aquatic life.

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

12.1. Toxicity

12.1.2 Complex substance

No aquatic toxicity data available for the substances.

12.2. Persistence and degradability

No data available.

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. Other adverse effects

No data available.

SECTION 13 : DISPOSAL CONSIDERATIONS

The appropriate waste management of the substance 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

Exempt from transport classification and labelling.

14.1. UN number

-

14.2. UN proper shipping name

-

14.3. Transport hazard class(es)

-

14.4. Packing group

-

14.5. Environmental hazards

-

14.6. Special precautions for user

-

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.

- Standardised American system for the identification of hazards presented by the product in view of emergency procedures (NFPA 704) :

NFPA 704, Labelling: Health=2 Inflammability=2 Instability/Reactivity=1 Specific Risk=none

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.

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 substance and not as a guarantee of the properties thereof.

Wording of the phrases mentioned in section 3 :

H225	Highly flammable liquid and vapour.
H303	May be harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H336	May cause drowsiness or dizziness.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H412	Harmful to aquatic life with long lasting effects.

Abbreviations :

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

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.