SAFETY DATA SHEET

(GHS, Appendix 4)

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

1.1. Product identifier

Product name : Hay Absolute

EC N° : 309-340-7

CAS N° : 100209-32-3

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.

Flammable liquid, Category 4 (Flam. Liq. 4, H227).

Skin irritation, Category 3 (Skin Irrit. 3, H316).

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

This substance does not present an environmental hazard. No known or foreseeable environmental damage under standard conditions of use.

2.2. Label elements

GHS compliant.

Hazard pictograms :

GHS07

Signal Word :

WARNING

Product identifiers (list of classified components) :

CAS 150-86-7	PHYTOL

Hazard statements :

H227	Combustible liquid.
H316	Causes mild skin irritation.
H317	May cause an allergic skin reaction.

Precautionary statements - Prevention :

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
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/...
P332 + P313	If skin irritation occurs: Get medical advice/attention.

Precautionary statements - Storage :

P403 + P235	Store in a well-ventilated place. Keep cool.

Precautionary statements - Disposal :

P501	Dispose of contents/container in accordance with local regulation.

2.3. Other hazards

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Composition :

Identification	Classification GHS	Note	%
CAS: 64-17-5 EC: 200-578-6 REACH: 01-2119457610-43-0000 ETHYL ALCOHOL	GHS02, GHS07 Dgr Eye Irrit. 2, H319 Flam. Liq. 2, H225	[1]	1 <= x % < 2.5
CAS: 150-86-7 EC: 416-120-5 PHYTOL	GHS07 Wng Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 4, H413		1 <= x % < 2.5
CAS: 5989-27-5 EC: 227-813-5 D-LIMONENE	GHS02, GHS07, GHS08, GHS09 Dgr Flam. Liq. 3, H226 Asp. Tox. 1, H304 Skin Irrit. 2, H315 Skin Sens. 1B, H317 Aquatic Chronic 3, H412 Aquatic Acute 1, H400 M Acute = 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 aera 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

Flammable.

Combustible liquid.

Chemical powders, carbon dioxide and other extinguishing gas are suitable for small fires.

5.1. Extinguishing media

Keep packages near the fire cool, to prevent pressurised containers from bursting.

Suitable methods of extinction

In the event of a fire, use :

- sprayed water or water mist
- water with AFFF (Aqueous Film Forming Foam) additive

Prevent the effluent of fire-fighting measures from entering drains or waterways.

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 (CO_2)

5.3. Advice for firefighters

Fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus.

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.

Vapours are heavier than air. They can spread along the ground and form mixtures that are explosive with air.

Prevent the formation of flammable or explosive concentrations in air and avoid vapor concentrations higher than the occupational exposure limits.

Prevent the accumulation of electrostatic charges with connections to earth.

Use the mixture in premises free of naked flames or other sources of ignition and ensure that electrical equipment is suitably protected.

Keep packages tightly closed and away from sources of heat, sparks and naked flames.

Do not use tools which may produce sparks. Do not smoke.

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.

Keep away from all sources of ignition - do not smoke.

Keep well away from all sources of ignition, heat and direct sunlight.

Avoid accumulation of electrostatic charges.

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 :

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :

64-17-5	1000 ppm	A3	

- 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 :
64-17-5	1000 ppm 1900 mg/m3				

- Germany - AGW (BAuA - TRGS 900, 02/2022) :

CAS	VME :	VME :	Excess	Notes
64-17-5		200 ppm 380 mg/m3		4(II)
5989-27-5		5 ppm 28 mg/m3		4(II)

- Australia (NOHSC: 3008, 1995) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	1000 ppm 1880 mg/m3			H	

- Belgium (Royal decree of 11/05/2021) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	1000 ppm 1907 mg/m3				

- Brazil :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	780 ppm	-	-	-	-

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	1000 ppm 1880 mg/m3				

- Canada / British Colombia (2009) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5		1000 ppm			

- Canada / Quebec (Regulations on occupational health and safety) :
- Denmark (2020) :

Stof	TWA	VSTEL	Loftvaerdi	Anm
64-17-5	1000 ppm 1900 mg/m3			

- France (INRS - Outils 65 / 2021-1849, 2021-1763, decree of 09/12/2021) :

CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :
64-17-5	1000	1900	5000	9500	-	84

- Finland (HTP-värden 2018) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	1000 ppm 1900 mg/m3	1300 ppm 2500 mg/m3			
5989-27-5	25 ppm 140 mg/m3	50 ppm 280 mg/m3			

- Spain (Instituto Nacional de Seguridad e Higiene en el Trabajo (INSHT), 2019) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :

64-17-5		1 ppm 1.91 mg/m3		s	
5989-27-5	30 ppm 168 mg/m3			Sen. via dermica	

- Greece (90/1999) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5		1000 ppm 1900 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 :
64-17-5	1000 ppm	-	-	-	-

- Ireland (Code of practice for the Chemical Agents Regulations, 2021) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5		1000 ppm			

- Latvia (Regulation No. 325/2007) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	1000 mg/m3				

- Lithuania (HN 23 :2001) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	500 ppm 1000 mg/m3	1000 ppm 1900 mg/m3			

- Malaysia :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	1000 ppm	-	-	-	-

- Mexico :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	1000 ppm	-	-	-	-

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	500 ppm 950 mg/m3				
5989-27-5	25 ppm 140 mg/m3			A	

- New Zealand (Workplace Exposure standards, 11/2020, edition 12-1) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	1000 ppm 1880 mg/m3			oto	

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	260 mg/m3	1900 mg/m3		Huid	

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	1900 mg/m3				

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :

64-17-5	1000 mg/m3	3000 mg/m3		I	

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	500 ppm 960 mg/m3	1 000 ppm 1 920 mg/m3			

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5		1000 ppm 1900 mg/m3		Y	

- Switzerland (Suva 2021) :

CAS	VME	VLE	Valeur plafond	Notations
64-17-5	500 ppm 960 mg/m3	1000 ppm 1920 mg/m3		
5989-27-5	7 ppm 40 mg/m3	14 ppm 80 mg/m3		

- Sweden (AFS 2018 :1) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	500 ppm 1000 mg/m3	1000 ppm 1900 mg/m3		V	
5989-27-5	25 ppm	50 ppm	-	-	-

- Romania (Hotarâre 1218/2006) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	1000 ppm 1900 mg/m3	5000 ppm 9500 mg/m3			

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	1000 ppm 1920 mg/m3				

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	1000 ppm	-	-	-	-

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	-	-	3300	-	-

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

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
64-17-5	1000 ppm 1900 mg/m3				

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

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

No data available.

Physical state

Physical state :	Viscous liquid.

Colour

Unspecified

Odour

Odour threshold :	Not stated.

Melting point

Melting point/melting range :	Not specified.

Freezing point

Freezing point / Freezing range :	Not stated.

Boiling point or initial boiling point and boiling range

Boiling point/boiling range :	Not specified.

Flammability

Flammability (solid, gas) :	Not stated.

Lower and upper explosion limit

Explosive properties, lower explosivity limit (%) :	Not stated.
Explosive properties, upper explosivity limit (%) :	Not stated.

Flash point

Flash Point Interval :	60°C < FP <= 93°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.
pH (aqueous solution) :	Not stated.

Kinematic viscosity

Viscosity :	Not stated.

Solubility

Water solubility :	Insoluble.
Fat solubility :	Not stated.

Partition coefficient n-octanol/water (log value)

Partition coefficient: n-octanol/water :	Not stated.

Vapour pressure

Vapour pressure (50°C) :	Not stated.

Density and/or relative density

Density :	0,933-0,953@20°C Method for determining the density : NF ISO 279:1999 (T75-111)

Relative vapour density

Vapour density :	Not stated.

9.2. Other information

Index of refraction :	NA 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.

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 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

Any apparatus likely to produce a flame or to have a metallic surface at high temperature (burners, electric arcs, furnaces etc.) must not be allowed on the premises.

Avoid :

- accumulation of electrostatic charges.
- flames and hot surfaces

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 reversible damage to the skin; namely the formation of erythema and eschar 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

No toxicological data available for the substances.

11.1.2 Complex substance

Skin corrosion/skin irritation :

Irritation : Causes mild skin irritation.

11.2. Information on other hazards

Monograph(s) from the IARC (International Agency for Research on Cancer) :

CAS 91-64-5 : IARC Group 3 : The agent is not classifiable as to its carcinogenicity to humans.

CAS 97-53-0 : IARC Group 3 : The agent is not classifiable as to its carcinogenicity to humans.

CAS 5989-27-5 : IARC Group 3 : The agent is not classifiable as to its carcinogenicity to humans.

CAS 64-17-5 : IARC Group 1 : The agent is carcinogenic to humans.

SECTION 12 : ECOLOGICAL INFORMATION

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. Endocrine disrupting properties

No data available.

12.7. 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, 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

-

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

-

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. 8 (2019)

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.

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.
H226	Flammable liquid and vapour.
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.
H400	Very toxic to aquatic life.
H412	Harmful to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Abbreviations and acronyms :

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

PBT: Persistent, bioaccumulable and toxic.

vPvB : Very persistent, very bioaccumulable.