



SAFETY DATA SHEET (SDS)

Prepared in accordance with the Globally Harmonized System (GHS) and Regulation (EC) No. 1907/2006 (REACH, as amended)

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

1.1 Product identifier

Item	Details
Product Name	Musk Ambrette
Chemical Name	4-tert-Butyl-3-methoxy-2,6-dinitrotoluene
Alternative Name	2,4-Dinitro-3-methyl-6-tert-butylanisole
CAS Number	83-66-9
EC Number	201-493-7
Molecular Formula	$C_{12}H_{16}N_2O_5$
Molecular Weight	268.27 g/mol
Chemical Family	Synthetic nitro musk
Physical Form	Crystalline solid
Odour	Sweet, heavy, floral and musky

CAS 83-66-9, EC 201-493-7, formula $C_{12}H_{16}N_2O_5$ and the chemical identity are confirmed in ECHA, NIST and chemical reference records.

1.2 Identified Uses

- Laboratory reference material
- Chemical research
- Analytical testing
- Historical fragrance-material evaluation
- Non-cosmetic industrial applications where legally permitted

1.3 Uses Advised Against

- Cosmetic products sold in the European Union
- Direct skin application
- Personal-care products
- Internal consumption
- Food or flavour applications
- Pharmaceutical use
- Use by children
- Household use without professional risk controls



1.4 Supplier

Aromology Trading LLC
G05 Al Ghazal Building
Nadd Al Hamar
Dubai, United Arab Emirates

Website: www.aromology.com

Email: info@aromology.com

Telephone: +971 505197601

1.5 Emergency Telephone

Contact the nearest poison-control centre or emergency medical service.

SECTION 2: HAZARD IDENTIFICATION

2.1 Classification

The following conservative classification is applied based on currently available supplier and reference SDS information:

Hazard Class	Category	Hazard Statement
Acute Toxicity, Oral	Category 4	H302
Skin Irritation	Category 2	H315
Skin Sensitisation	Category 1	H317
Eye Irritation	Category 2	H319

Current chemical supplier SDS records commonly classify Musk Ambrette as harmful if swallowed, irritating to skin and eyes, and capable of causing an allergic skin reaction.

2.2 Label Elements

Pictogram

GHS07 – Exclamation Mark

Signal Word

WARNING

Hazard Statements



- H302: Harmful if swallowed.
- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H319: Causes serious eye irritation.

Precautionary Statements

- P261: Avoid breathing dust.
- P264: Wash thoroughly after handling.
- P270: Do not eat, drink or smoke when using this product.
- P272: Contaminated work clothing should not be allowed out of the workplace.
- P280: Wear protective gloves, protective clothing and eye protection.
- P301+P312: IF SWALLOWED: Call a poison centre or doctor if you feel unwell.
- P330: Rinse mouth.
- P302+P352: IF ON SKIN: Wash with plenty of soap and water.
- P333+P313: If skin irritation or rash occurs: Get medical advice.
- P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if easy to do. Continue rinsing.
- P337+P313: If eye irritation persists: Get medical advice.
- P501: Dispose of contents and container in accordance with applicable regulations.

2.3 Other Hazards

- Musk Ambrette has historically been associated with photosensitivity and neurological toxicity concerns.
- Experimental animal studies reported neurotoxic effects at doses substantially above estimated historical human exposure.
- It is prohibited for use in EU cosmetic products.
- Dust may form an irritating airborne particulate.
- Heating or combustion may release toxic nitrogen oxide fumes.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substance

Chemical Name	CAS Number	EC Number	Concentration
4-tert-Butyl-3-methoxy-2,6-dinitrotoluene	83-66-9	201-493-7	90–100%

3.2 Chemical Description

Musk Ambrette is a synthetic aromatic nitro compound belonging to the older nitro-musk class.

SECTION 4: FIRST-AID MEASURES

4.1 Inhalation

- Move the affected person to fresh air.
- Keep the person at rest.
- Seek medical advice if irritation, headache, dizziness or breathing discomfort develops.

4.2 Skin Contact

- Remove contaminated clothing.
- Wash immediately with soap and plenty of water.
- Do not use solvents to clean the skin.
- Seek medical advice if irritation or rash develops.
- Wash contaminated clothing before reuse.

4.3 Eye Contact

- Rinse cautiously with clean water for at least 15 minutes.
- Remove contact lenses if present and easy to do.
- Continue rinsing.
- Obtain medical attention if irritation persists.

4.4 Ingestion

- Rinse the mouth.
- Do not induce vomiting unless instructed by medical personnel.
- Contact a poison centre or doctor.
- Never give anything by mouth to an unconscious person.

4.5 Important Symptoms and Effects

Possible symptoms include:

- Nausea
- Gastrointestinal discomfort
- Skin redness
- Itching or allergic rash
- Eye redness and watering
- Headache or dizziness following significant exposure



4.6 Medical Treatment

Treat symptomatically.

There is no known specific antidote.

SECTION 5: FIREFIGHTING MEASURES

5.1 Suitable Extinguishing Media

- Dry chemical powder
- Carbon dioxide
- Alcohol-resistant foam
- Water fog

5.2 Unsuitable Extinguishing Media

Do not use a direct high-pressure water jet.

5.3 Specific Hazards

The product is a combustible organic solid.

Thermal decomposition may produce:

- Carbon monoxide
- Carbon dioxide
- Nitrogen oxides
- Irritating or toxic organic fumes
- Dense smoke

5.4 Advice for Firefighters

- Wear self-contained breathing apparatus.
 - Wear full protective clothing.
 - Cool exposed containers with water spray.
 - Prevent firefighting water from entering drains or waterways.
-

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal Precautions



- Avoid generating dust.
- Avoid breathing dust.
- Avoid contact with skin and eyes.
- Wear gloves, protective clothing and eye protection.
- Keep unnecessary personnel away.
- Remove sources of ignition.

6.2 Environmental Precautions

- Prevent entry into drains, waterways and soil.
- Avoid uncontrolled environmental release.
- Do not wash spilled material into wastewater systems.

6.3 Cleaning Methods

- Collect carefully without generating airborne dust.
 - Use an industrial vacuum fitted with suitable filtration where appropriate.
 - Place the material in a sealed and labelled waste container.
 - Clean the affected surface with detergent.
 - Dispose of waste through an authorised chemical-waste contractor.
-

SECTION 7: HANDLING AND STORAGE

7.1 Safe Handling

- Handle only in a well-ventilated area.
- Avoid creating or breathing dust.
- Avoid skin and eye contact.
- Wear appropriate protective equipment.
- Do not eat, drink or smoke while handling.
- Wash thoroughly after handling.
- Keep the container closed when not in use.
- Do not use in cosmetic or personal-care formulations intended for the EU market.

7.2 Storage Conditions

- Store in the original tightly closed container.
- Keep in a cool, dry and well-ventilated area.
- Protect from direct sunlight.
- Keep away from heat and ignition sources.
- Keep away from strong oxidising agents.
- Store separately from food, drink and animal feed.



- Keep securely locked and inaccessible to children.

Recommended Storage Temperature

15–25 °C

7.3 Specific End Use

Laboratory, analytical or legally permitted industrial use only.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Occupational Exposure Limits

No specific occupational exposure limit has been established for Musk Ambrette.

Exposure should be kept as low as reasonably practicable.

8.2 Engineering Controls

- Use local exhaust ventilation.
- Avoid open handling of powder.
- Use enclosed transfer systems where possible.
- Provide an eyewash station and emergency washing facilities.

8.3 Eye Protection

Wear tightly fitting chemical-safety goggles.

8.4 Hand Protection

Wear chemical-resistant gloves, such as:

- Nitrile rubber
- Butyl rubber

8.5 Skin Protection

Wear:

- Long-sleeved protective clothing
- Laboratory coat
- Closed footwear



- Chemical-resistant apron during bulk handling

8.6 Respiratory Protection

Where dust cannot be adequately controlled, wear an approved particulate respirator.

8.7 Hygiene Measures

- Wash hands and exposed skin after handling.
- Remove contaminated clothing immediately.
- Do not take contaminated work clothing outside the workplace.
- Keep away from food and beverages.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Property	Typical Information
Physical State	Solid
Appearance	Pale yellow to yellow crystalline powder or crystals
Odour	Strong, sweet, floral and musky
Molecular Formula	$C_{12}H_{16}N_2O_5$
Molecular Weight	268.27 g/mol
Melting Point	Approximately 83–86 °C
Boiling Point	Approximately 369 °C, estimated
Flash Point	Not reliably established
Water Solubility	Practically insoluble
Solubility in Alcohol	Slightly soluble
Relative Density	Not determined
Vapour Pressure	Very low
Log Pow	Approximately 3.6, estimated
Auto-Ignition Temperature	Not determined
Decomposition Temperature	Not determined
Explosive Properties	Not classified as explosive
Oxidising Properties	Not classified as oxidising

Reference sources describe Musk Ambrette as a pale-yellow crystalline material with a melting point near 85 °C and low water solubility.

SECTION 10: STABILITY AND REACTIVITY



10.1 Reactivity

No hazardous reaction is expected under recommended storage conditions.

10.2 Stability

Stable under normal dry and cool storage conditions.

10.3 Hazardous Reactions

Hazardous reactions may occur with strong oxidising agents.

10.4 Conditions to Avoid

- Excessive heat
- Flames and sparks
- Direct sunlight
- Dust formation
- Contamination
- Prolonged exposure to incompatible materials

10.5 Incompatible Materials

- Strong oxidising agents
- Strong acids
- Strong alkalis
- Strong reducing agents

10.6 Hazardous Decomposition Products

- Carbon monoxide
- Carbon dioxide
- Nitrogen oxides
- Toxic organic fumes

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Acute Toxicity

Classified as harmful if swallowed.

11.2 Skin Irritation



Causes skin irritation.

11.3 Eye Irritation

Causes serious eye irritation.

11.4 Sensitisation

May cause an allergic skin reaction.

11.5 Photosensitivity

Musk Ambrette has historical evidence of phototoxic or photoallergic reactions and should not be considered suitable for direct skin exposure.

11.6 Mutagenicity

Some historical sources report mutation data; however, the available information is insufficient for a definitive classification in this document.

11.7 Carcinogenicity

Not classified in this document due to insufficient current substance-specific data.

11.8 Reproductive Toxicity

Not classified due to insufficient data.

11.9 Specific Target Organ Toxicity

Historical animal studies identified neurological effects following substantial or prolonged exposure.

11.10 Aspiration Hazard

Not applicable to the solid form.

11.11 Routes of Exposure

- Inhalation of dust
 - Skin contact
 - Eye contact
 - Accidental ingestion
-



SECTION 12: ECOLOGICAL INFORMATION

12.1 Aquatic Toxicity

Complete reliable aquatic-toxicity data are not available for this document.

Avoid all environmental release.

12.2 Persistence and Degradability

Nitro-musk compounds may persist in the environment and should not be discharged into drains or natural waters.

12.3 Bioaccumulative Potential

Bioaccumulation cannot be excluded.

12.4 Mobility in Soil

Expected to have low water mobility because of poor water solubility.

12.5 PBT and vPvB Assessment

No complete PBT or vPvB assessment is provided in this MSDS.

12.6 Other Adverse Effects

Older nitro musks have lost importance partly because of toxicological and ecotoxicological concerns.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Disposal

- Dispose of as hazardous chemical waste.
 - Use an authorised chemical-waste contractor.
 - Do not dispose of into drains, soil or waterways.
 - Do not dispose of with household waste.
 - Do not reuse contaminated packaging.
 - Treat empty containers as containing hazardous residues.
-



SECTION 14: TRANSPORT INFORMATION

14.1 Transport Classification

Some transport databases associate Musk Ambrette with toxic-solid transport classifications; however, transport status may vary by purity, jurisdiction and supplier classification.

Item	Information
Possible UN Number	UN 2811
Possible Proper Shipping Name	Toxic solid, organic, n.o.s.
Possible Transport Class	6.1
Packing Group	Supplier and transport assessment required
Marine Pollutant	Not confirmed

A chemical reference source associates CAS 83-66-9 with UN 2811, but the latest batch-specific manufacturer SDS and carrier classification must be used before shipment.

14.2 Special Transport Precautions

- Keep containers tightly closed.
- Protect from moisture and physical damage.
- Prevent dust release.
- Confirm transport classification with the carrier before dispatch.
- Do not rely on this generic document alone for dangerous-goods declaration.

SECTION 15: REGULATORY INFORMATION

15.1 European Union Cosmetic Status

Musk Ambrette is listed in Annex II of Regulation (EC) No. 1223/2009, meaning it is prohibited in cosmetic products placed on the EU market.

Annex II Entry	Substance	CAS Number	EC Number
414	4-tert-Butyl-3-methoxy-2,6-dinitrotoluene – Musk Ambrette	83-66-9	201-493-7

This prohibition remains present in the consolidated EU Cosmetics Regulation.

15.2 Applicable Regulations

- Regulation (EC) No. 1907/2006 – REACH



- Regulation (EC) No. 1272/2008 – CLP
- Regulation (EU) 2020/878
- Regulation (EC) No. 1223/2009 – Cosmetics
- Applicable occupational-health, environmental and transport regulations

15.3 Chemical Safety Assessment

A chemical safety assessment has not been independently performed by Aromology Trading LLC.

15.4 Regulatory Warning

This material must not be supplied, promoted or used as a cosmetic fragrance ingredient for products placed on the European Union market.

Customers must verify legality in every intended country and application.

SECTION 16: OTHER INFORMATION

16.1 Full Hazard Statements

- H302: Harmful if swallowed.
- H315: Causes skin irritation.
- H317: May cause an allergic skin reaction.
- H319: Causes serious eye irritation.

16.2 Document Information

Item	Details
Product Name	Musk Ambrette
CAS Number	83-66-9
EC Number	201-493-7
Issue Date	21 July 2026
Revision Number	1.0
Document Type	Material Safety Data Sheet

16.3 Important Regulatory Notice

Musk Ambrette is an obsolete nitro-musk ingredient with significant regulatory restrictions.

It is prohibited in EU cosmetic products and should only be handled for legitimate laboratory, analytical or specifically permitted industrial purposes.



It must not be confused with:

- Ambrettolide
- Musk ketone
- Musk xylene
- Natural ambrette seed oil
- Ambrette seed absolute

These are chemically and regulatorily different materials.

16.4 Disclaimer

The information in this MSDS is based on currently available regulatory records, public chemical databases and supplier safety information believed to be reliable at the date of issue.

This document is intended as general guidance for professional handling and does not constitute:

- A batch-specific manufacturer SDS
- A guarantee of product properties
- Approval for cosmetic use
- Transport certification
- Legal authorisation for sale or use
- A substitute for local regulatory assessment

The customer is responsible for:

- Confirming the latest legal status in the destination country.
- Reviewing the original manufacturer's current SDS.
- Confirming the product's purity and composition.
- Determining the correct transport classification.
- Ensuring that prohibited cosmetic uses do not occur.
- Conducting an appropriate workplace and environmental risk assessment.

Where the original manufacturer's SDS differs from this document, the original manufacturer's current SDS shall take precedence.

AUTHORISED BY

Fozia Khot
Director