SAFETY DATA SHEET

MOLTOX®
Molecular Toxicology, Inc.

NAME OF PRODUCT 7,12-dimethylbenz(a)anthracene

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product/Catalog Number(s):

60-135	150 µg/vial
60-135.1	100 mg/vial

Product name: **7,12-dimethylbenz(a)anthracene**

Synonyms: DMBA; Dimethylbenzanthracene; 9,10-Dimethyl-1,2-benzanthracene; 1,4-Dimethyl-2,3-benzphenanthrene

Manufacturer: Molecular Toxicology Inc.

Address: 157 Industrial Park Drive, Boone, North Carolina, 28607

Phone: (1) 828 264 9099 (8:30 – 17:00 EST)

Fax: 828 264 0103

Emergency contact (Chemtrec): Contact 1800-424-9300 (USA) or 703 527 3887 (International) at other times
Email: chemtrec@chemtrec.com; http://www.chemtrec.com/

Recommended use: Laboratory, For Research Only

Restrictions on use: Not for clinical use

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture per GSH and EU Directive 1272/2008

Danger

Physical hazards None known

Health hazards Carcinogenicity (Category 1B)
Acute toxicity, Oral (Category 4)

Environmental hazards See eco-toxicity section 12.

Labelling

Hazard Statements
H350 May cause cancer
H302 Harmful if swallowed

Precautionary Statements
P308+313+330 IF exposed or concerned: Get medical advice/attention. Rinse mouth
P301+312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P201 Receive special instructions before use
P202 Do not handle until all safety precautions are understood
P264 Wash hands thoroughly after handling

P270 Do no eat, drink or smoke when using this product
P281 Use personal protective equipment as required
P312 Call a POISON CENTER of doctor/physician if you feel unwell
P405 Store locked up
P501 Dispose of contents/container to licensed disposal compnay

Other hazards

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance

Component	Purpose	CAS-No	EC-No.	Weight %
7,12-dimethylbenz(a)anthracene $C_{20}H_{16}$	Biochemical used in the study of carcinogenesis	57-97-6	200-359-5	100%

SECTION 4. FIRST AID MEASURES

Description of first aid measures

Eye Contact	Rinse eyes and under eyelids immediately with plenty of water. Consult a doctor.
Skin Contact	Wash off immediately with plenty of soap and water and rinse thoroughly. Remove contaminated clothing and shoes. Seek medical advice if irritation persists.
Ingestion	Rinse mouth with plenty of water. Never give anything by mouth to an unconscious person. Seek immediate medical attention.
Inhalation	Move to fresh air. If required, provide artificial respiration. Keep patient warm. Get medical attention for any breathing difficulties.
Protection of first-aiders	Not required

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area. In the event that symptoms develop or persists, obtain medical attention.

Most important symptoms and effects, both acute and delayed

Acute: Ingestion - Harmful if swallowed; Skin - Harmful in contact with skin; Eyes - May cause irritation.
Chronic: May be carcinogenic - duration and level of exposure dependent

Indication of any immediate medical attention and special treatment needed

Seek medical attention if ingested or if breathing difficulties are observed.

SECTION 5. FIREFIGHTING MEASURES

Extinguishing media

Combustible; use media suitable for extinguishing surrounding fire (carbon dioxide, extinguishing powder or water spray). Fight larger fires with water spray or alcohol resistant foam.

Special hazards arising from the substance or mixture

Hazardous thermal decomposition products: Carbon dioxide, carbon monoxide, nitrogen oxides.

Emits toxic fumes under fire conditions.

Advice for firefighters

Fire-fighters should wear fully protective impervious protective equipment and self-contained breathing apparatus (SCBA).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Evacuate surrounding areas. Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas.

Environmental precautions

Do not release material into drains.

Methods and material for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

Reference to other sections

Refer to Sections 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7. HANDLING AND STORAGE

Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Do not breathe dust/spray/mist.
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

Conditions for safe storage, including any incompatibilities

Storage - Store according to product packaging, tightly sealed. Keep in a dry, well-ventilated place.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

No data available

Monitoring methods
N/A

Exposure controls

Engineering Measures
Ensure adequate ventilation, especially in confined areas
Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimize release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source. Use of a properly operating chemical fume hood designed for hazardous chemicals is recommended.

Personal protective equipment

Eye Protection: Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hand Protection

Chemical resistant gloves; nitrile rubber recommended. Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves (refer to manufacturer/supplier for information). If material is solubilized, account for solvent in glove assessment.

Remove gloves with care avoiding skin contamination.

Skin and body protection

Impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection

Exposure risk assessment must be performed by a qualified Industrial Hygienist. Where risk assessment shows air purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator. NIOSH approved Respiratory Protection is required by EPA. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator.For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Hygiene Measures - Handle in accordance with good industrial hygiene and safety practice. Wash hands, forearms and face thoroughly after handling chemical products, before smoking, eating and using lavatory, and at the end of the work period. Employ techniques to avoid contamination of clothing. Keep away from food, beverages, and feed.

Environmental exposure controls – Properly operating chemical fume hood designed for hazardous chemicals.

Exposure limits

Permissible Exposure Limits and Threshold Limit Values not specified by OSHA.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Solid, light yellow
Auto-ignition temperature	no data available
Boiling point	463.46°C at 760 mmHg
Decomposition temperature	no data available
Flammable limits in air	no data available
Flash point	187°C
Formula	$C_{20}H_{16}$
Melting point	122-123°C (313-316°F)
Molecular weight	256.34 g/mol
Odor threshold	no data available
Osmolality	no data available

Partition Coefficient	5.85
pH	no data available
Relative Density	1.14 g/cm^3 at 20^{o}C
Solubility in water	Not soluble
Specific gravity	no data available
Vapor density	no data available
Vapor pressure	no data available
Viscosity	no data available

Other information

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Not reactive.

Chemical stability

Stable under normal conditions. Decomposition will not occur if used and stored appropriately.

Possibility of hazardous reactions

No hazardous reactions known.

Conditions to avoid

Strong oxidizing agents, excessive heat and light

Incompatible materials

No data available

Hazardous decomposition products

Carbon monoxide and carbon dioxide

SECTION 11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity

LD_{50}	rat, oral	327 mg/kg
LD_{50}	mouse, oral	340 mg/kg
LD_{50}	intravenous, rat	54 mg/kg
LD_{50}	intraperitoneal, mouse	54 mg/kg
LD_{50}	intravenous, mouse	340 mg/kg
LD_{50}	intratracheal, mouse	22,500 µg/kg

Skin Corrosion/Irritation
Skin- Mouse
Result: Mild skin irritation

Germ cell mutagenicity
Laboratory experiments have shown powerful mutagenic effects.

Carcinogenicity
This product is or contains a component that has been reported to be possibly carcinogenic according to IARC, ACGIH, NTP, and OSHA classifications

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity
Serious risks of heritage genetic damage from exposure to this compound. Toxicity to the reproductive system.

Teratogenicity
Laboratory experiments have shown teratogenic effects

Specific target organ toxicity - single exposure (Globally Harmonized System)
no data available

Specific target organ toxicity - repeated exposure (Globally Harmonized System)
Repeated exposure may result in general deterioration of health by an accumulation in one or more organs

Aspiration hazard
no data available

Potential health effects
Inhalation Toxic if inhaled.
Ingestion Toxic if swallowed.
Skin May be harmful if absorbed through skin.
Eyes Causes eye irritation.

Synergistic effects
no data available

Additional toxicological information:
RTECS: CW3850000

SECTION 12. ECOLOGICAL INFORMATION

Toxicity
Aquatic ecotoxicity: No data available
Persistance and degradability: No data available.
Behavior in environment systems:
Bioaccumulative potential: No data available.
Mobility in soil: No data available.

Additional ecological information:
General notes:
Do not allow undiluted product or large quantities of it to reach ground water, water course, or sewage system.
Do not allow material to be released to the environment without proper governmental permits.

Results of PBT and vPVB Assessment
PBT: Not applicable
vPvB: Not applicable

Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.

SECTION 13. DISPOSAL CONSIDERATIONS

Product
Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging
Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

DOT (US) regulations:
UN number: 2811 Class: 6.1 Packing group: III
Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (7,12-dimethylbenz(a)anthracene)
Reportable Quantity: 1 lbs
Poison inhalation hazard: No

IMDG
Not regulated

IATA
Not regulated

Further information
Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solid

SECTION 15. REGULATORY INFORMATION

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

Massachusetts Right To Know Components
57-97-6 7,12-dimethylbenz(a)anthracene

Pennsylvania Right To Know Components
57-97-6 7,12-dimethylbenz(a)anthracene

New Jersey Right To Know Components
57-97-6 7,12-dimethylbenz(a)anthracene

California Prop. 65 Components
WARNING! This product contains a chemical known to State of California to cause cancer
57-97-6 7,12-dimethylbenz(a)anthracene

SECTION 16. OTHER INFORMATION

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Molecular Toxicology, Inc. shall not be held liable for any damage resulting from handling or from contact with the above product. See www.moltox.com and/or the invoice or packing slip for additional terms and conditions of sale.