SIGMA-ALDRICH

Material Safety Data Sheet

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Section 1 - Product and Company Information

Product Name 1,6-Dinitropyrene, Approx. 60% (TLC)
Product Number D9288
Brand Sigma Chemical

Company Sigma-Aldrich
Street Address 3050 Spruce Street
City, State, Zip, Country SAINT LOUIS, MO 63103 US
Technical Phone: 800-325-5832 **Emergency Phone:** 314-776-6555
Fax: 800-325-5052

Section 2 - Composition/Information on Ingredient

Substance Name	CAS #	SARA 313	EC no	Annex I Index Number
1,6-DINITROPYRENE	42397-64-8	No		

Formula $C_{16}H_8N_2O_4$
Synonyms 1,6-Dinitropyrene

Section 3 - Hazards Identification

Emergency Overview
Toxic.
May cause cancer.
Probable Carcinogen (US).

HMIS Rating
Health: 0* Flammability: 0 Reactivity: 0

NFPA Rating
Health: 0 Flammability: 0 Reactivity: 0

*additional chronic hazards present.

For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Oral Exposure
If swallowed, wash out mouth with water provided person is conscious. Call a physician.

Inhalation Exposure
If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.

Dermal Exposure
In case of contact, immediately wash skinwith soap and copious amounts of water.

Eye Exposure
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A

Extinguishing Media
Suitable
Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting
Protective Equipment
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s)
Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill
Evacuate area.

Procedure(s) of Personal Precaution(s)
Wear self-contained breathing apparatus, rubber boots, and heavy rubber gloves.Wear disposable coveralls and discard them after use.

Methods for Cleaning Up
Sweep up, place in a bag and hold for waste disposal.Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling
User Exposure
Do not breathe dust. Do not get in eyes, on skin, on clothing.Avoid prolonged or repeated exposure.

Storage
Suitable
Keep tightly closed. Store at -20°C

Section 8 - Exposure Controls / PPE

Engineering Controls
Use only in a chemical fume hood.Safety shower andeye bath.

Personal Protective Equipment
Respiratory
Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).Where risk assessment shows air-purifying respirators are appropriate use a fullface particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator.
Hand
Compatible chemical-resistant gloves.
Eye
Chemical safety goggles.

General Hygiene Measures
Wash contaminated clothing before reuse.Wash thoroughly after handling.

Section 9 - Physical/Chemical Properties

Appearance
Physical State
Solid

Molecular Weight	292.25 AMU
pH	N/A
BP/BP Range	N/A
MP/MP Range	300 °C
Freezing Point	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Saturated Vapor Conc.	N/A
SG/Density	N/A
Bulk Density	N/A
Odor Threshold	N/A
Volatile%	N/A
VOC Content	N/A
Water Content	N/A
Solvent Content	N/A
Evaporation Rate	N/A
Viscosity	N/A
Partition Coefficient	N/A
Decomposition Temp.	N/A
Flash Point °F	N/A
Flash Point °C	N/A
Explosion Limits	N/A
Flammability	N/A
Autoignition Temp	N/A
Solubility	N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability
Stable
Stable.
Materials to Avoid
Strong oxidizing agents, Strong bases

Hazardous Decomposition Products
Hazardous Decomposition Products
Carbon monoxide, Carbon dioxide, Nitrogen oxides

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Section 11 - Toxicological Information

Route of Exposure
Skin Contact
May cause skin irritation.
Skin Absorption
May be harmful if absorbed through the skin.
Eye Contact
May cause eye irritation.
Inhalation
Material may be irritating to mucous membranes and upper respiratory tractMay be harmful if inhaled.
Ingestion
May be harmful if swallowed.

RTECS Number: UR2455000

Chronic Exposure- Carcinogen
Result: This product is or contains a component that has been reported to be possibly carcinogenic based on its IARC, ACGIH, NTP, or EPA classification.

Rat - Intraperitoneal 23 MG/KG 4W I
Result: Tumorigenic:Carcinogenic by RTECS criteria.Gastrointestinal:Tumors. Skin and Appendages: Other: Tumors.

Rat - Subcutaneous 9206 UG/KG 8W I
Result: Tumorigenic:Carcinogenic by RTECS criteria.Tumorigenic:Tumors at site or application.

Rat - Intrapleural 600 UG/KG
Result: Tumorigenic:Carcinogenic by RTECS criteria.Lungs, Thorax, or Respiration:Tumors.

Rat - Intratracheal 120 UG/KG
Result: Tumorigenic:Carcinogenic by RTECS criteria.Lungs, Thorax, or Respiration:Tumors.Skin and Appendages: Other: Tumors.

Mouse - Subcutaneous 80 MG/KG 20W I
Result: Tumorigenic:Carcinogenic by RTECS criteria.Tumorigenic:Tumors at site or application.

Hamster - Intratracheal 104 MG/KG 26W I
Result: Tumorigenic:Carcinogenic by RTECS criteria.Lungs, Thorax, or Respiration:Tumors.

Rat - Subcutaneous 16 MG/KG 10W I
Result: Tumorigenic:Carcinogenic by RTECS criteria.Tumorigenic:Tumors at site or application.

IARC Carcinogen List
Rating
Group 2B

NTP Carcinogen List
Rating
Anticipated to be a carcinogen.

Chronic Exposure- Mutagen

Species	*Dose*		*Cell Type*	*Mutation test*
Human	500 UMOL/L		mammary gland	DNA
Human	3 UMOL/L		lung	DNA
Human	500 NMOL/L		Other cell types	Unscheduled DNA synthesis
Human	50 NMOL/L		liver	Unscheduled DNA synthesis
Human	1250 UG/L	3H	lymphocyte	Other mutation test systems
Human	5 MG/L		fibroblast	Other mutation test systems
Human	1250 UG/L	3H	lymphocyte	Cytogenetic analysis
Human	500 UG/L		lymphocyte	Mutation in mammalian somatic cells.
Rat	3 UMOL/L		liver	DNA
Rat	10 UG/L		liver	Unscheduled DNA synthesis
Rat	80 NMOL/L		Other cell types	Unscheduled DNA synthesis
Rat	1250 MG/L		liver	Cytogenetic analysis
Mouse	1 MG/L		liver	Unscheduled DNA synthesis
Mouse	2 MG/KG		S. typhimurium	Host-mediated assay
Hamster	2 MG/L (+S9)		ovary	Mutation in microorganisms
Hamster	15 UMOL/L		lung	DNA damage
Hamster	250 NMOL/L		lung	Other mutation test systems
Hamster	500 UG/L		ovary	Cytogenetic analysis
Hamster	5 UMOL/L		lung	Cytogenetic analysis
Hamster	500 UG/L		ovary	Sister chromatid exchange
Hamster	100 NMOL/L		lung	SLN
Hamster	100 UG/L		lung	Mutation in mammalian somatic cells.
Hamster	50 UG/L		ovary	Mutation in mammalian somatic cells.
Rabbit	2500 NG/L		lung	Unscheduled DNA synthesis

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
Contact a licensed professional waste disposal service to dispose of this material.
Observe all federal, state, and local environmental regulations.
(DN)Requires special label: "Contains a substance which is regulated by Dannish work environmental law due to the risk of carcinogenic properties."

Section 14 - Transport Information

DOT
Proper Shipping Name: None
Non-Hazardous for Transport This substance is considered to be nonhazardous for transport.

IATA
Non-Hazardous for Air Transport Non-hazardous for air transport.

Section 15 - Regulatory Information

EU Additional Classification
Symbol of Danger: T
Indication of Danger
Toxic.
Risk Statements **R:** 45
May cause cancer.
Safety Statements **S:** 36
Wear suitable protective clothing.

US Classification and Label Text
Indication of Danger
Toxic.
Risk Statements
May cause cancer.
Safety Statements
Wear suitable protective clothing.
US Statements
Probable Carcinogen (US).

United States Regulatory Information
SARA Listed: No

United States - State Regulatory Information
California Prop - 65
This product is or contains chemical(s) known to the state of California to cause cancerThis product is or contains chemical(s) known to the state of California to cause cancer.

Canada Regulatory Information
WHMIS Classification
This product has been classified in accordance with the hazard criteria of the CPR, and the MSDS contains all the information required by the CPR.
DSL: No
NDSL: No

Section 16 - Other Information

Disclaimer
For R&D use only. Not for drug, household or other uses.

Warranty
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 stateof our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. SigmAldrich Inc., shall not be held liable for any damage resulting from handling or fom contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale.