SECTION-1: Identification of the substance / mixture and the company / undertaking

Catalogue Number	CS-EC-00020
Product Name	2-Methyl-4,6-dinitrophenol
CAS No.	534-52-1
Category	Pesticide Standards
Synonyms	"2-methyl-4,6-dinitrophenol; 2,4-Dinitro-6-methylphenol; 3,5-Dinitro-2-hydroxytoluene; 4,6-Dinitro-2-methylphenol; 4,6-Dinitro-o-cresol; 6-Methyl-2,4-dinitrophenol; Arborol; DNOC; Degrassan; Dekrysil; Detal; Dillex; Rafex; Kreozan; Effusan"
Brand	Clearsynth Labs Ltd.
Identified uses	Laboratory Chemicals
Uses advised against	Not available
Company	Clearsynth Labs Ltd. Mumbai, India
Emergency Phone #	+91-22-245045900
REACH No.	Not available

SECTION 2: Hazards identification

Disclaimer: This is sample MSDS. Please email **sales@clearsynth.com** for more details.

2.1 Classification of the substance or mixture-Regulation (EC) No 1272/2008:

Skin irritation (Category 2)

2.2 Label Elements

Signal Word: Warning

Hazard Statement(s)

Code	Statement
H300	Not available
H310	Not available

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Not available
H341	Not available
H400	Not available
H410	Not available
H300+H310+H330	Not available
H311	Not available
H361	Not available
H370	Not available
H372	Not available
H411	Toxic to aquatic life with long lasting effects.
H340	Not available
H371	Not available
H373	Not available

Precautionary Statement(s)

Code	Statement
P203	Not available
P260	Not available
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P262	Not available
P264	Wash hands thoroughly after handling.
P264+P265	Not available
P270	Not available
P271	Use only outdoors or in a well-ventilated area.
P272	Not available
P273	Not available
P280	Wear protective gloves/protective clothing/eye protection/face protection.

P284	Not available
P301+P316	Not available
P302+P352	IF ON SKIN: Wash with plenty of water and soap.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P354+P338	Not available
P316	Not available
P317	Not available
P318	Not available
P320	Not available
P321	Specific treatment (see … on this label).
P330	Not available
P332+P317	If skin irritation occurs: Get medical help.
P333+P317	Not available
P361+P364	Not available
P362+P364	Take off contaminated clothing and wash it before reuse.
P391	Not available
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulatio
P308+P316	Not available
P319	Get medical help if you feel unwell.

SECTION 3: Composition / information on ingredients

3.1 Substance

Component : 2-Methyl-4,6-dinitrophenol
CAS Number : 534-52-1
Molecular Formula : C7H6N2O5
Molecular Weight : 198.13
Parent Chemical : Not available
Synonyms : "2-methyl-4,6-dinitrophenol; 2,4-Dinitro-6-methylphenol; 3,5-Dinitro-2-hydroxytoluene; 4,6-Dinitro-2-methylphenol; 4,6-Dinitro-o-cresol; 6-Methyl-2,4-dinitrophenol; Arborol; DNOC; Degrassan; Dekrysil; Detal; Dillex; Rafex; Kreozan; Effusan"
Concentration : Not available

SECTION 4: First aid measures

SECTION 4: First-aid measures

4.1 Description of first aid measures
- General advice: Remove contaminated clothing and shoes. Seek medical attention if symptoms occur or persist.
- Inhalation: Move person to fresh air. Keep at rest. If breathing is difficult, seek medical attention.
- Skin contact: Wash immediately with plenty of water and soap. Seek medical attention if irritation or symptoms develop.
- Eye contact: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing. Seek medical attention.
- Ingestion: Rinse mouth. Do NOT induce vomiting unless directed by medical personnel. Seek medical attention.

4.2 Most important symptoms/effects, acute and delayed
- Not available.

4.3 Indication of immediate medical attention and special treatment needed
- Treat symptomatically. No data available.

SECTION 5: Firefighting measures

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
- Use extinguishing media appropriate for surrounding fire (e.g., water spray, dry chemical, foam, carbon dioxide).

5.2 Special hazards arising from the substance or mixture
- Thermal decomposition may produce irritating and/or toxic fumes.
- Not available (specific hazardous combustion products).

5.3 Advice for firefighters
- Wear self-contained breathing apparatus (SCBA) and full protective gear.
- Use water spray to cool unopened containers.
- Avoid inhalation of combustion products.

5.4 Further information
- Not available.

SECTION 6: Accidental release measures

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
- Evacuate unnecessary personnel.
- Avoid breathing dust/vapors/mist.
- Use appropriate personal protective equipment (see Section 8).
- Ensure adequate ventilation.

6.2 Environmental precautions
- Prevent further leakage or spillage if safe to do so.
- Avoid release to the environment. Prevent entry into drains, surface waters, and soil.

6.3 Methods and material for containment and cleaning up
- Avoid dust formation.
- Collect spillage using inert absorbent material and place in a suitable, closed container for disposal.
- Clean contaminated area with water and detergent where appropriate.

6.4 Reference to other sections
- Disposal considerations: see Section 13. Exposure controls/PPE: see Section 8.

SECTION-7: Handling and storage

SECTION 7: Handling and storage

7.1 Precautions for safe handling
- Avoid contact with skin and eyes.
- Avoid breathing dust.
- Use only with adequate ventilation.
- Keep container tightly closed when not in use.
- Wash hands thoroughly after handling.

7.2 Conditions for safe storage, including any incompatibilities
- Store in a cool, dry, well-ventilated place.
- Keep in original container, tightly closed.
- Protect from moisture.
- Incompatible materials: Not available.

7.3 Specific end use(s)
- Pesticide standard / laboratory use. Not available (additional specific guidance).

SECTION 8: Exposure controls / personal protection

SECTION 8: Exposure controls/personal protection

8.1 Control parameters
- Occupational exposure limits: Not available.
- Biological limit values: Not available.

8.2 Exposure controls
- Engineering controls: Use local exhaust ventilation or other engineering controls to maintain airborne levels below applicable exposure limits (if established). Provide eyewash station and safety shower.

Personal protective equipment (PPE)
- Eye/face protection: Safety glasses with side shields or chemical splash goggles.
- Skin protection: Protective gloves (chemical-resistant). Protective clothing as appropriate.
- Respiratory protection: If ventilation is inadequate or dust is generated, use a suitable respirator in accordance with applicable regulations.
- Hygiene measures: Handle in accordance with good industrial hygiene and safety practice. Remove contaminated clothing and wash before reuse.

Environmental exposure controls
- Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Test	Result
Appearance	No data available
IR spectrum	No data available
pH	No data available
Solubility	No data available

Property	Value
a) Physical State	No data available
b) Color	No data available
c) Odor	No data available
d) pH	No data available
e) Vapour Pressure	No data available
f) Viscosity	No data available
g) Initial Boiling Point and boiling range	No data available
h) Melting Point / Freezing Point	No data available
i) Auto Ignition Temperature	No data available
j) Flash Point	No data available
k) Explosion Limit, Lower	No data available
l) Explosion Limit, Upper	No data available
m) Decomposition Temperature	No data available
n) Loss on Drying	No data available
o) Relative Density	No data available
p) Solubility (in DMSO)	No data available
q) Oxidizing Properties	No data available

SECTION 10: Stability and reactivity

SECTION 10: Stability and reactivity

10.1 Reactivity
- No data available.

10.2 Chemical stability
- Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
- No data available.

10.4 Conditions to avoid
- Heat, flames, ignition sources. Avoid dust generation.
- Not available (additional conditions).

10.5 Incompatible materials
- Not available.

10.6 Hazardous decomposition products
- Not available.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
- Acute toxicity: Symptoms of DNOC toxicity include restlessness, a sensation of heat, flushed skin, sweating, thirst and deep rapid respiration and tachycardia, severe increase in body temperature, cyanosis leading to collapse, coma and death. Effects are enhanced at high temperatures. Environmental temperatures influenced the mortality rate among rats orally dosed with DNOC. Six of 12 rats died after receiving 20 mg/kg at 37-40 °C, while only 2 of 12 rats died after receiving twice the dose (40 mg/kg) at 20-22 °C.
- Skin corrosion/irritation: Application of DNOC to skin of rabbits induced edema.
- Serious eye damage/eye irritation: No data available.
- Respiratory or skin sensitization: It was a skin sensitizer in the guinea pig.
- Germ cell mutagenicity: Negative results were found in human lymphocytes for sister chromatid exchanges and unscheduled DNA synthesis in both the presence and the absence of metabolic activation at doses up to 50 ug/mL. DNOC has been shown to have mutagenic potential in bacterial mutagenicity systems (strains TA98 and TA100) both in the presence and absence of metabolic activation. The mutagenic response obtained in the Ames test was markedly reduced or abolished when the nitroreductase strains TA98NR and TA100NR were used, indicating involvement of nitroreductase.
- Carcinogenicity: Inadequate information to assess carcinogenic potential
- Reproductive toxicity: At high doses, DNOC has a slight effect on reproduction in the form of reduction of body weight and litter size. Other reproduction parameters were not affected. DNOC did not induce any teratogenic effects in pregnant rats receiving oral doses from gestation day 6 to day 15. In rabbits treated orally, the high dose was maternally toxic, inducing mortality. At this high dose level, teratogenic effects included microphthalmia and hydroencephaly or microencephaly. Pregnant rabbits exposed to a cutaneous application of DNOC during gestation, induced maternal toxicity at a high dose resulting in some embryotoxicity but not teratogenicity. No evidence of teratogenicity or embryotoxicity were noted in mice treated orally or by ip administration during pregnancy.
- STOT-single exposure: No data available.
- STOT-repeated exposure: No data available.
- Aspiration hazard: No data available.

Likely routes of exposure

- /LABORATORY ANIMALS: Acute Exposure/ ... Cats survived single, 4 hour inhalation exposure to liquid DNOC aerosol at 1.4 mg/cu m; however, one of three died from similar exposure to 40 mg/cu m.

Symptoms related to the physical, chemical and toxicological characteristics
- Symptoms of DNOC toxicity include restlessness, a sensation of heat, flushed skin, sweating, thirst and deep rapid respiration and tachycardia, severe increase in body temperature, cyanosis leading to collapse, coma and death. Effects are enhanced at high temperatures. Cardiovascular effects have been noted secondary to cellular anoxia but do not appear to be consistent cardinal signs of DNOC exposure in humans. Elevated pulse rates, tachycardia, and palpitations were observed in several patients.

SECTION 12: Ecological information

SECTION 12: Ecological information

12.1 Toxicity
- No data available.

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
- Not available.

12.6 Endocrine disrupting properties
- Not available.

12.7 Other adverse effects
- No data available.

SECTION 13: Disposal considerations

SECTION 13: Disposal considerations

13.1 Waste treatment methods
- Dispose of contents/container in accordance with local/regional/national/international regulations.
- Do not discharge to drains or the environment.
- Contaminated packaging: Dispose of as unused product or according to local requirements.

Waste code
- Not available.

SECTION 14: Transport information

SECTION 14: Transport information

14.1 UN number

- Not available.

14.2 UN proper shipping name
- Not available.

14.3 Transport hazard class(es)
- Not available.

14.4 Packing group
- Not available.

14.5 Environmental hazards
- Not available.

14.6 Special precautions for user
- Not available.

14.7 Maritime transport in bulk according to IMO instruments
- Not available.

SECTION 15: Regulatory information

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
- Not available.

15.2 Chemical safety assessment
- Not available.

SECTION 16: Other information

SECTION 16: Other information

Product identification
- Product name: 2-Methyl-4,6-dinitrophenol
- CAS No.: 534-52-1
- Catalog No.: CS-EC-00020
- Category: Pesticide Standards
- Molecular weight: 198.13
- Synonyms: 2-methyl-4,6-dinitrophenol; 2,4-Dinitro-6-methylphenol; 3,5-Dinitro-2-hydroxytoluene; 4,6-Dinitro-2-methylphenol; 4,6-Dinitro-o-cresol; 6-Methyl-2,4-dinitrophenol; Arborol; DNOC; Degrassan; Dekrysil; Detal; Dillex; Rafex; Kreozan; Effusan

Supplier information
- Supplier: Clearsynth Labs Ltd., Mumbai, India
- Emergency phone: +91-22-245045900

Revision information
- Not available.

Disclaimer
- The information provided is believed to be accurate based on available data; however, no warranty is expressed or implied. Users are responsible for determining suitability and for compliance with applicable laws and regulations.

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