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

1.1 Product identifiers

Product name: Cobalt naphthenate

Product Number: 544574
Brand: Aldrich
CAS-No.: 61789-51-3

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Synthesis of substances

1.3 Details of the supplier of the safety data sheet

Company: Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO  63103
UNITED STATES

Telephone: +1 314 771-5765
Fax: +1 800 325-5052

1.4 Emergency telephone

Emergency Phone #: 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Flammable liquids (Category 3), H226
Skin sensitization (Category 1), H317
Carcinogenicity (Category 2), H351
Reproductive toxicity (Category 2), H361
Specific target organ toxicity - repeated exposure (Category 1), Central nervous system, H372
Specific target organ toxicity - repeated exposure, Oral (Category 1), Gastrointestinal tract, H372
Aspiration hazard (Category 1), H304
Long-term (chronic) aquatic hazard (Category 3), H412

Aldrich - 544574
For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 **GHS Label elements, including precautionary statements**

**Pictogram**

![Pictogram]

**Signal Word**

Danger

**Hazard statement(s)**

- **H226** Flammable liquid and vapor.
- **H304** May be fatal if swallowed and enters airways.
- **H317** May cause an allergic skin reaction.
- **H351** Suspected of causing cancer.
- **H361** Suspected of damaging fertility or the unborn child.
- **H372** Causes damage to organs (Central nervous system) through prolonged or repeated exposure.
- **H372** Causes damage to organs (Gastrointestinal tract) through prolonged or repeated exposure if swallowed.
- **H412** Harmful to aquatic life with long lasting effects.

**Precautionary statement(s)**

- **P201** Obtain special instructions before use.
- **P202** Do not handle until all safety precautions have been read and understood.
- **P210** Keep away from heat/ sparks/ open flames/ hot surfaces. No smoking.
- **P233** Keep container tightly closed.
- **P240** Ground/bond container and receiving equipment.
- **P241** Use explosion-proof electrical/ ventilating/ lighting/ equipment.
- **P242** Use only non-sparking tools.
- **P243** Take precautionary measures against static discharge.
- **P260** Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
- **P264** Wash skin thoroughly after handling.
- **P270** Do not eat, drink or smoke when using this product.
- **P272** Contaminated work clothing must not be allowed out of the workplace.
- **P273** Avoid release to the environment.
- **P280** Wear protective gloves/ protective clothing/ eye protection/ face protection.
- **P301 + P310** IF SWALLOWED: Immediately call a POISON CENTER/ doctor.
- **P303 + P361 + P353** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
- **P308 + P313** IF exposed or concerned: Get medical advice/ attention.
- **P331** Do NOT induce vomiting.
- **P333 + P313** If skin irritation or rash occurs: Get medical advice/ attention.
- **P363** Wash contaminated clothing before reuse.
- **P370 + P378** In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
- **P403 + P235** Store in a well-ventilated place. Keep cool.
- **P405** Store locked up.
- **P501** Dispose of contents/ container to an approved waste disposal plant.

2.3 **Hazards not otherwise classified (HNOC) or not covered by GHS** - none
SECTION 3: Composition/information on ingredients

3.2 Mixtures

<table>
<thead>
<tr>
<th>Component</th>
<th>Classification</th>
<th>Concentration</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthenic acids, cobalt salts</td>
<td>Skin Sens. 1; Carc. 2; Rep. 2; STOT RE 1; Aquatic Chronic 3; H317, H351, H361, H372, H412</td>
<td>&gt;= 50 - &lt; 70%</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>61789-51-3</td>
<td></td>
</tr>
<tr>
<td>EC-No.</td>
<td>263-064-0</td>
<td></td>
</tr>
<tr>
<td>Stoddard solvent (&lt;0.1% benzene)</td>
<td>Flam. Liq. 3; STOT RE 1; Asp. Tox. 1; H226, H372, H304</td>
<td>&gt;= 30 - &lt; 50%</td>
</tr>
<tr>
<td>CAS-No.</td>
<td>8052-41-3</td>
<td></td>
</tr>
<tr>
<td>EC-No.</td>
<td>232-489-3</td>
<td></td>
</tr>
<tr>
<td>Index-No.</td>
<td>649-345-00-4</td>
<td></td>
</tr>
</tbody>
</table>

For the full text of the H-Statements mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first-aid measures

General advice
Show this material safety data sheet to the doctor in attendance.

If inhaled
After inhalation: fresh air. Call in physician.

In case of skin contact
In case of skin contact: Take off immediately all contaminated clothing. Rinse skin with water/ shower. Consult a physician.

In case of eye contact
After eye contact: rinse out with plenty of water. Call in ophthalmologist. Remove contact lenses.

If swallowed

4.2 Most important symptoms and effects, both acute and delayed
The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed
No data available
SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Foam Carbon dioxide (CO2) Dry powder

Unsuitable extinguishing media
For this substance/mixture no limitations of extinguishing agents are given.

5.2 Special hazards arising from the substance or mixture
Nature of decomposition products not known.
Mixture with combustible ingredients.
Vapors are heavier than air and may spread along floors.
Forms explosive mixtures with air at elevated temperatures.
Development of hazardous combustion gases or vapours possible in the event of fire.

5.3 Advice for firefighters
Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

5.4 Further information
Remove container from danger zone and cool with water. Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Advice for non-emergency personnel: Do not breathe vapors, aerosols. Avoid substance contact. Ensure adequate ventilation. Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency procedures, consult an expert. For personal protection see section 8.

6.2 Environmental precautions
Do not let product enter drains. Risk of explosion.

6.3 Methods and materials for containment and cleaning up
Cover drains. Collect, bind, and pump off spills. Observe possible material restrictions (see sections 7 and 10). Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected area.

6.4 Reference to other sections
For disposal see section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Advice on safe handling
Work under hood. Do not inhale substance/mixture. Avoid generation of vapours/aerosols.

Advice on protection against fire and explosion
Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharge.
**Hygiene measures**
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.
For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

**Storage conditions**
Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to qualified or authorized persons.

**Storage class**
Storage class (TRGS 510): 3: Flammable liquids

### 7.3 Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

---

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

**Ingredients with workplace control parameters**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Value</th>
<th>Control parameters</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stoddard solvent (&lt;0,1% benzene)</td>
<td>8052-41-3</td>
<td>TWA</td>
<td>100 ppm</td>
<td>USA, ACGIH Threshold Limit Values (TLV)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>TWA</td>
<td>USA, NIOSH Recommended Exposure Limits</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>C</td>
<td>USA, NIOSH Recommended Exposure Limits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>350 mg/m³</td>
<td>USA, NIOSH Recommended Exposure Limits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>1,800 mg/m³</td>
<td>USA, NIOSH Recommended Exposure Limits</td>
</tr>
<tr>
<td></td>
<td></td>
<td>TWA</td>
<td>500 ppm 2,900 mg/m³</td>
<td>USA, Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants</td>
</tr>
<tr>
<td></td>
<td></td>
<td>PEL</td>
<td>100 ppm 525 mg/m³</td>
<td>California permissible exposure limits for chemical contaminants (Title 8, Article 107)</td>
</tr>
</tbody>
</table>

#### 8.2 Exposure controls

**Appropriate engineering controls**
Immediately change contaminated clothing. Apply preventive skin protection. Wash hands and face after working with substance.

**Personal protective equipment**

**Eye/face protection**
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). Safety glasses

**Skin protection**
required
**Body Protection**
Flame retardant antistatic protective clothing.

**Respiratory protection**
required when vapours/aerosols are generated.
Our recommendations on filtering respiratory protection are based on the following standards: DIN EN 143, DIN 14387 and other accompanying standards relating to the used respiratory protection system.

**Control of environmental exposure**
Do not let product enter drains. Risk of explosion.

---

**SECTION 9: Physical and chemical properties**

**9.1 Information on basic physical and chemical properties**

- **a) Appearance**
  - Form: liquid
  - Color: dark, purple

- **b) Odor**
  - No data available

- **c) Odor Threshold**
  - No data available

- **d) pH**
  - No data available

- **e) Melting point/freezing point**
  - No data available

- **f) Initial boiling point and boiling range**
  - > 300 °C > 572 °F - Solvent

- **g) Flash point**
  - 48.9 °C (120.0 °F) - Tag closed cup

- **h) Evaporation rate**
  - No data available

- **i) Flammability (solid, gas)**
  - No data available

- **j) Upper/lower flammability or explosive limits**
  - Upper explosion limit: 6 %(V)
  - Lower explosion limit: 1 %(V)

- **k) Vapor pressure**
  - No data available

- **l) Vapor density**
  - No data available

- **m) Density**
  - 0.921 g/mL at 25 °C (77 °F)
  - Relative density: No data available

- **n) Water solubility**
  - negligible

- **o) Partition coefficient: n-octanol/water**
  - No data available

- **p) Autoignition temperature**
  - No data available

- **q) Decomposition temperature**
  - No data available

- **r) Viscosity**
  - No data available
s) Explosive properties  Not classified as explosive.
t) Oxidizing properties  none

9.2 Other safety information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
Vapor/air-mixtures are explosive at intense warming.

10.2 Chemical stability
The product is chemically stable under standard ambient conditions (room temperature).

10.3 Possibility of hazardous reactions
No data available

10.4 Conditions to avoid
Heating.

10.5 Incompatible materials
Strong oxidizing agents

10.6 Hazardous decomposition products
In the event of fire: see section 5

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Mixture

Acute toxicity
LD50 Oral - Rat - 3,900 mg/kg
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
Mixture may cause an allergic skin reaction.

Germ cell mutagenicity
No data available

Carcinogenicity
Evidence of a carcinogenic effect.
IARC:  No ingredient of this product present at levels greater than or equal to 0.1% is
identified as probable, possible or confirmed human carcinogen by IARC.

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

OSHA: No component of this product present at levels greater than or equal to 0.1% is on OSHA’s list of regulated carcinogens.

**Reproductive toxicity**
Suspected of damaging the unborn child.
Suspected of damaging fertility.

**Specific target organ toxicity - single exposure**
No data available

**Specific target organ toxicity - repeated exposure**
Mixture causes damage to organs through prolonged or repeated exposure.
- Central nervous system
- Gastrointestinal tract

**Aspiration hazard**
Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.

11.2 **Additional Information**
Other dangerous properties can not be excluded.

This substance should be handled with particular care.

Handle in accordance with good industrial hygiene and safety practice.

Stomach - Irregularities - Based on Human Evidence

**Components**

**Naphthenic acids, cobalt salts**

**Acute toxicity**
LD50 Oral - Rat - female - 3,129 mg/kg
(OECD Test Guideline 425)
Inhalation: No data available
Dermal: No data available

**Skin corrosion/irritation**
Skin - reconstructed human epidermis (RhE)
Result: No skin irritation - 3 - 60 min
(OECD Test Guideline 431)

**Serious eye damage/eye irritation**
Eyes - Rabbit
Result: No eye irritation
(OECD Test Guideline 405)

**Respiratory or skin sensitization**
Local lymph node assay (LLNA) - Mouse
Result: positive
Remarks: (ECHA)
Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
Suspected of damaging the unborn child.
Suspected of damaging fertility.

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
Oral - Causes damage to organs through prolonged or repeated exposure.
- Gastrointestinal tract

Aspiration hazard
No data available

Stoddard solvent (<0.1% benzene)

Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available

Skin corrosion/irritation
No data available

Serious eye damage/eye irritation
No data available

Respiratory or skin sensitization
No data available

Germ cell mutagenicity
No data available

Carcinogenicity
No data available

Reproductive toxicity
No data available

Specific target organ toxicity - single exposure
No data available

Specific target organ toxicity - repeated exposure
Causes damage to organs through prolonged or repeated exposure.
- Central nervous system

Aspiration hazard
Aspiration hazard, Aspiration may cause pulmonary edema and pneumonitis.
SECTION 12: Ecological information

12.1 Toxicity

Mixture
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
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties
No data available

12.7 Other adverse effects
No data available

Components

Naphthenic acids, cobalt salts
Toxicity to fish semi-static test LC50 - Pimephales promelas (fathead minnow) - 1.86 mg/l - 96 h (US-EPA)

Toxicity to algae static test ErC50 - Pseudokirchneriella subcapitata - 0.095 mg/l - 72 h (OECD Test Guideline 201)

Toxicity to bacteria
Toxicity to fish (Chronic toxicity) semi-static test NOEC - Pimephales promelas (fathead minnow) - 0.9 mg/l - 7 d (US-EPA)

Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity) semi-static test NOEC - Ceriodaphnia dubia (water flea) - 0.02 mg/l - 7 d (US-EPA)

Stoddard solvent (<0.1% benzene)
No data available
SECTION 13: Disposal considerations

13.1 Waste treatment methods

**Product**
Waste material must be disposed of in accordance with the national and local regulations. Leave chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product itself. See www.retrologistik.com for processes regarding the return of chemicals and containers, or contact us there if you have further questions.

SECTION 14: Transport information

**DOT (US)**
- UN number: 1993
- Class: 3
- Packing group: III
- Proper shipping name: Flammable liquids, n.o.s. (Stoddard solvent (<0,1% benzene))
- Reportable Quantity (RQ):
  - Poison Inhalation Hazard: No

**IMDG**
- UN number: 1993
- Class: 3
- Packing group: III
- EMS-No: F-E, S-E
- Proper shipping name: FLAMMABLE LIQUID, N.O.S. (Stoddard solvent (<0,1% benzene))

**IATA**
- UN number: 1993
- Class: 3
- Packing group: III
- Proper shipping name: Flammable liquid, n.o.s. (Stoddard solvent (<0,1% benzene))

SECTION 15: Regulatory information

**SARA 302 Components**
This material does not contain any components with a section 302 EHS TPQ.

**SARA 313 Components**
The following components are subject to reporting levels established by SARA Title III, Section 313:

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Naphthenic acids, cobalt salts</td>
<td>61789-51-3</td>
<td>2007-03-01</td>
</tr>
</tbody>
</table>

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

**Massachusetts Right To Know Components**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stoddard solvent (&lt;0,1% benzene)</td>
<td>8052-41-3</td>
<td>1993-02-16</td>
</tr>
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</table>

**Pennsylvania Right To Know Components**

<table>
<thead>
<tr>
<th>Component</th>
<th>CAS-No.</th>
<th>Revision Date</th>
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<tr>
<td>Naphthenic acids, cobalt salts</td>
<td>61789-51-3</td>
<td>2007-03-01</td>
</tr>
</tbody>
</table>
SECTION 16: Other information

Further 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 and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

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Version: 8.7 Revision Date: 05/24/2023 Print Date: 01/06/2024