



Safety Data Sheet

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LOCTITE DRILOC 2045 A

SDS No. : 173054

V001.1

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1. Identification of the substance/preparation and of the company/undertaking

Product name LOCTITE DRILOC 2045 A

Suggestion application & limitation of use: Threadlocker

Company information, address, tel No.:

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2. Hazards identification

Product hazard classification:

| <u>Hazard Class</u> | <u>Hazard Category</u> |
|-----------------------------------|------------------------|
| Skin corrosion/irritation | Category 2 |
| Serious eye damage/eye irritation | Category 2A |

GHS label content:

Hazard pictogram:



Signal word: Warning

Hazard statement: H315 Causes skin irritation.
H319 Causes serious eye irritation.

Precautionary Statement (Prevention): P264 Wash skin thoroughly after handling.
P280 Wear protective gloves, eye protection, and face protection.

Precautionary Statement (Response): P302+P352 IF ON SKIN: Wash with plenty of water.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P332+P313 If skin irritation occurs: Get medical advice/attention.
P337+P313 If eye irritation persists: Get medical advice/attention.
P362+P364 Take off contaminated clothing and wash it before reuse.

3. Composition / information on ingredients**Pure substance/ Mixture:** Mixture

| Traditional Chinese name /English name for the hazardous compositions: | CAS-No. | Percentage/Conc. |
|--|-----------|---------------------|
| 硫酸鋇 Barium sulfate | 7727-43-7 | $\geq 1 - < 10 \%$ |
| 乙烯均聚物 Ethene, homopolymer | 9002-88-4 | $\geq 1 - < 10 \%$ |
| 苯甲酸銨鹽 Ammonium benzoate | 1863-63-4 | $\geq 1 - < 10 \%$ |
| 氫氧化鈉 Sodium hydroxide | 1310-73-2 | $\geq 1 - < 2.5 \%$ |

4. First aid measures**First aid measure for different exposure ways:**

Inhalation: Move to fresh air. If symptoms persist, seek medical advice.

Skin contact: Rinse with running water and soap.
Seek medical advice.

Eye contact: Rinse immediately with plenty of running water (for 10 minutes). Seek medical attention if necessary.

Ingestion: Rinse out mouth, drink 1-2 glasses of water, do not induce vomiting.
Seek medical advice.

5. Fire fighting measures

Proper extinguishing agent: Carbon dioxide, foam, powder

Decomposition products in case of fire: See section 10.

Special hazard during the fire-fighting process: In the event of a fire, carbon monoxide (CO) and carbon dioxide (CO₂) can be released.

Special protect devices of fire-fighting team: Wear self-contained breathing apparatus and full protective clothing, such as turn-out gear.

6. Accidental release measures

| | |
|-----------------------------------|---|
| Personal precautions: | Avoid skin and eye contact. Ensure adequate ventilation. |
| Environmental precautions: | Do not let product enter drains. |
| Clean method: | For small spills wipe up with paper towel and place in container for disposal. For large spills absorb onto inert absorbent material and place in sealed container for disposal. |

7. Handling and storage

| | |
|-------------------------|--|
| Safety handling: | Use only in well-ventilated areas. Prolonged or repeated skin contact should be avoided to minimise any risk of sensitisation. |
| Storage: | Store in original containers at 8-21°C (46.4-69.8°F) and do not return residual materials to containers as contamination may reduce the shelf life of the bulk product. |

8. Exposure controls / personal protection**Engineering control:**

No specific ventilation requirements noted, but forced ventilation may still be required if concentrations exceed occupational exposure limits.

| Ingredient [Regulated substance] | Value type | ppm | mg/m ³ | Form of exposure | Remarks |
|--|------------------------------|-----|-------------------|------------------|---------|
| NUISANCE DUST (TOTAL DUST) 7727-43-7 | Time Weighted Average (TWA): | | 10 | Total dust. | TW_PEL |
| NUISANCE DUST (RESPIRABLE DUST) 7727-43-7 | Time Weighted Average (TWA): | | 5 | Respirable dust. | TW_PEL |
| NUISANCE DUST (RESPIRABLE DUST) 7727-43-7 | Short-term exposure limit: | | 10 | Respirable dust. | TW_PEL |
| NUISANCE DUST (TOTAL DUST) 7727-43-7 | Short-term exposure limit: | | 15 | Total dust. | TW_PEL |
| NUISANCE DUST (TOTAL DUST) 9002-88-4 | Time Weighted Average (TWA): | | 10 | Total dust. | TW_PEL |
| NUISANCE DUST (RESPIRABLE DUST) 9002-88-4 | Time Weighted Average (TWA): | | 5 | Respirable dust. | TW_PEL |
| NUISANCE DUST (RESPIRABLE DUST) 9002-88-4 | Short-term exposure limit: | | 10 | Respirable dust. | TW_PEL |
| NUISANCE DUST (TOTAL DUST) 9002-88-4 | Short-term exposure limit: | | 15 | Total dust. | TW_PEL |
| SODIUM HYDROXIDE 1310-73-2 | Time Weighted Average (TWA): | | 2 | | TW_PEL |
| SODIUM HYDROXIDE 1310-73-2 | Short-term exposure limit: | | 4 | | TW_PEL |

Personal protect equipment:

Respiratory protection:**Hand protection:**

Use only in well-ventilated areas.

Chemical-resistant protective gloves (EN 374).

Suitable materials for short-term contact or splashes (recommended: at least protection index 2, corresponding to > 30 minutes permeation time as per EN 374):

nitrile rubber (NBR; ≥ 0.4 mm thickness)

Suitable materials for longer, direct contact (recommended: protection index 6, corresponding to > 480 minutes permeation time as per EN 374):

nitrile rubber (NBR; ≥ 0.4 mm thickness)

This information is based on literature references and on information provided by glove manufacturers, or is derived by analogy with similar substances. Please note that in practice the working life of chemical-resistant protective gloves may be considerably shorter than the permeation time determined in accordance with EN 374 as a result of the many influencing factors (e.g. temperature). If signs of wear and tear are noticed then the gloves should be replaced.

Eye protection:

Wear protective glasses.

Skin and body protection:

Wear suitable protective clothing.

Hygiene control:

Avoid contact with skin and eyes. Remove soiled or soaked clothing immediately. Wash off any contamination that gets onto the skin with plenty of water and soap, skin care. Keep absolute tidiness at the working place.

Do not eat, drink, smoke or take snuff while working.

Wash thoroughly after handling.

9. Physical and chemical properties

Appearance:

liquid

Odor:

red
mild

Odor threshold:

Not available.

| | |
|---|---------------------------|
| pH: | 8.0 - 10.0 |
| Melting point: | Not available. |
| Boiling point/range: | 100 °C |
| Density: | 1.04 g/cm ³ |
| Vapor pressure: | 23 mbar |
| | 20 °C |
| Vapor density: | 1 |
| Flammability: | Not applicable |
| Flash point: | > 100.0 °CMeasure method: |
| Explosion limit: | Not available. |
| Auto-ignition temperature: | Not available. |
| Solubility in water | Partially soluble |
| Octanol / water distribution coefficient: | Not available. |
| Evaporation rate: | Not available. |

10. Stability and reactivity

| | |
|--------------------------------|--|
| Incompatible materials: | None if used for intended purpose. |
| Condition to avoid: | Stable under normal conditions of storage and use. |
| Decomposed material: | None if used for intended purpose. |

11. Toxicological information

General toxicological information:

No experimental toxicological data on the preparation as such is available.

Oral toxicity:

Acute toxicity estimate (ATE) : > 5,000 mg/kg

Method: Calculation method

Inhalative toxicity:

Acute toxicity estimate (ATE) : > 40 mg/l

Exposure time: 4 h

Test atmosphere: Vapor.

Method: Calculation method

Other remarks:

Not available.

Acute toxicity:

| Hazardous components CAS-No. | Value type | Value | Route of application | Exposure time | Species | Method |
|----------------------------------|---------------|----------------|-------------------------|------------------|---------|--|
| Barium sulfate 7727-43-7 | LD50 | > 15,000 mg/kg | oral | | rat | not specified |
| | LD50 | > 2,000 mg/kg | | | rat | OECD Guideline 402 (Acute Dermal Toxicity) |
| Ethene, homopolymer 9002-88-4 | LD50 | > 2,000 mg/kg | dermal | | rat | OECD Guideline 423 (Acute Oral toxicity) |
| | LD50 | > 2,000 mg/kg | oral | | rabbit | not specified |
| Ammonium benzoate 1863-63-4 | LD50 | 825 mg/kg | dermal | | rat | not specified |
| Sodium hydroxide 1310-73-2 | LDLo | 500 mg/kg | oral | | rabbit | not specified |

Skin corrosion/irritation:

| Hazardous components CAS-No. | Result | Exposure time | Species | Method |
|---------------------------------|----------------|------------------|---|--|
| Barium sulfate 7727-43-7 | not irritating | 15 min | Human, EpiSkin™ (SM), Reconstructed Human Epidermis (RHE) | EPISKIN Method |
| Ammonium benzoate 1863-63-4 | not irritating | | Human, EpiDerm™ SIT (EPI- 200), Reconstructed Human Epidermis (RHE) | OECD Guideline 439 (In Vitro Skin Irritation: Reconstructed Human Epidermis (RHE) Test Method) |
| Sodium hydroxide 1310-73-2 | corrosive | | In vitro International Corrositex assay kit | OECD Guideline 435 (In Vitro Membrane Barrier Test Method for Skin Corrosion) |

Serious eye damage/irritation:

| Hazardous components CAS-No. | Result | Exposure time | Species | Method |
|----------------------------------|-----------------------|------------------|---|--|
| Barium sulfate 7727-43-7 | not irritating | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |
| Ethene, homopolymer 9002-88-4 | not irritating | 24 h | rabbit | FDA Guideline |
| Ammonium benzoate 1863-63-4 | irritating | | Human, in vitro, reconstituted human corneal model | OECD Guideline 492 (Reconstructed Human Cornea-like Epithelium (RhCE) Test Method) |
| Ammonium benzoate 1863-63-4 | no serious eye damage | | Bovine, cornea, in vitro test | OECD Guideline 437 (BCOP) |
| Sodium hydroxide 1310-73-2 | corrosive | | rabbit | OECD Guideline 405 (Acute Eye Irritation / Corrosion) |

Respiratory or skin sensitization:

| Hazardous components CAS-No. | Result | Test type | Species | Method |
|----------------------------------|-----------------|---|---------|---|
| Barium sulfate 7727-43-7 | not sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| Ethene, homopolymer 9002-88-4 | not sensitising | Mouse local lymphnode assay (LLNA) | mouse | OECD Guideline 429 (Skin Sensitisation: Local Lymph Node Assay) |
| Sodium hydroxide 1310-73-2 | not sensitising | Patch-Test | human | not specified |

Germ cell mutagenicity:

| Hazardous components CAS-No. | Result | Type of study / Route of administration | Metabolic activation / Exposure time | Species | Method |
|----------------------------------|----------------------------------|--|--|---------|--|
| Barium sulfate 7727-43-7 | negative negative negative | bacterial reverse mutation assay (e.g Ames test) in vitro mammalian chromosome aberration test mammalian cell gene mutation assay | with and without with and without with and without | | OECD Guideline 471 (Bacterial Reverse Mutation Assay) OECD Guideline 473 (In vitro Mammalian Chromosome Aberration Test) OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test) |
| Ethene, homopolymer 9002-88-4 | negative | bacterial reverse mutation assay (e.g Ames test) | with and without | | Ames Test |
| Sodium hydroxide 1310-73-2 | negative | bacterial reverse mutation assay (e.g Ames test) | no data | | not specified |

Repeated dose toxicity:

| Hazardous components CAS-No. | Result | Route of application | Exposure time / Frequency of treatment | Species | Method |
|---------------------------------|----------------|----------------------------|--|---------|---------------|
| Barium sulfate 7727-43-7 | NOAEL=2000 ppm | oral: drinking water | 92 ddaily | rat | not specified |

12. Ecological information

Ecological toxic information: Do not empty into drains / surface water / ground water.

Flow ability in the soil: No data available.

Toxicity:

| Hazardous components CAS-No. | Value type | Value | Acute Toxicity Study | Exposure time | Species | Method |
|----------------------------------|---------------|---------------|----------------------------|------------------|---------------------|---|
| Barium sulfate 7727-43-7 | EC0 | > 10,000 mg/l | Bacteria | 30 min | | not specified |
| Ethene, homopolymer 9002-88-4 | LC50 | > 100 mg/l | Fish | 96 h | Leuciscus idus | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Ethene, homopolymer 9002-88-4 | EC0 | > 1,000 mg/l | Bacteria | 3 h | not specified | OECD Guideline 209 (Activated Sludge, Respiration Inhibition Test) |
| Sodium hydroxide 1310-73-2 | LC50 | 45.4 mg/l | Fish | 96 h | Oncorhynchus mykiss | OECD Guideline 203 (Fish, Acute Toxicity Test) |
| Sodium hydroxide 1310-73-2 | EC50 | 40.4 mg/l | Daphnia | 48 h | Ceriodaphnia sp. | OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) |
| Sodium hydroxide 1310-73-2 | EC0 | > 100 mg/l | Bacteria | 30 min | Pseudomonas putida | DIN 38412, part 27 (Bacterial oxygen consumption test) |

Persistence and degradability:

| Hazardous components CAS-No. | Result | Route of application | Degradability | Method |
|----------------------------------|----------------------------|-------------------------|---------------|---|
| Ethene, homopolymer 9002-88-4 | not readily biodegradable. | aerobic | 1 % | ISO 10708 (BODIS-Test) |
| Ammonium benzoate 1863-63-4 | readily biodegradable | aerobic | 84 % | EU Method C.4-E (Determination of the "Ready" Biodegradability Closed Bottle Test) |

Bioaccumulative potential / Mobility in soil:

| Hazardous components CAS-No. | LogPow | Bioconcentration factor (BCF) | Exposure time | Species | Temperature | Method |
|---------------------------------|--------|----------------------------------|------------------|------------------------|-------------|------------------|
| Barium sulfate 7727-43-7 | | 74.4 | | Lepomis macrochirus | | other guideline: |

13. Disposal considerations

Waste disposal of product: Waste disposal with the approval of the responsible local authority.

14. Transport information

Road transport ADR:

Not dangerous goods

Railroad transport RID:

Not dangerous goods

Marine transport IMDG:

Not dangerous goods

Air transport IATA:

Not dangerous goods

15. Regulatory information

Labor Safety and Health Act

Regulation of Labeling and Hazard Communication of Dangerous and Harmful Substances

Standards on Workplace Atmosphere of Dangerous and Hazardous Materials

Regulations Governing Road Traffic Safety

Methods and Facilities Standards for the Storage, Clearance and Disposal of Industrial Waste

16. Other information

Reference information:

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