

1. Identification

Product identifier

Trade name: 633F14 - Molykote DX Paste

This safety data sheet pertains to the following products:

633F14=0.050 = Spezial-Schmiermittel

633F14=1 = Spezial-Schmiermittel

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

General use: Lubricating agent.

For use in industrial installations and professional treatment only.

Details of the supplier of the safety data sheet

Company name: Otto Bock Health Care

Street/POB-No.: 3820 W. Great Lakes Drive

Zip code, city: Salt Lake City, UT 84120

USA

WWW: www.ottobockus.com

Telephone: +1 (801) 956-2400

Telefax: +1 (801) 956-2401

Department responsible for information:

Quality Department,

Telephone: +1 (801) 954-2304 (7 AM – 3 PM, Mountain Time),

Email: USRegulatory@ottobock.com

Additional information:

Corporate headquarters:

Ottobock SE & Co. KGaA

Max-Näder-Straße 15

Duderstadt

Germany

Emergency telephone number

CHEMTREC, Telephone: +1 (800) 424-9300

Transport:

CONSULTANK Lutz Harder GmbH (Contract QUALI003)

Telephone: +49 (0)178-4337434 (from USA: 01149 178 4337434)

2. Hazard identification

Classification of the substance or mixture

Specific Target Organ Toxicity (Repeated Exposure)

- Category 2

Aquatic toxicity - acute - Category 1

Aquatic toxicity - chronic - Category 2

May cause damage to organs through prolonged or repeated exposure.

Very toxic to aquatic life.

Toxic to aquatic life with long lasting effects.

Label elements

Symbols:



Signal word:

Warning

Hazard statements:

May cause damage to organs through prolonged or repeated exposure.
Very toxic to aquatic life.
Toxic to aquatic life with long lasting effects.

Precautionary statements:

Do not breathe dust/fume/gas/mist/vapors/spray.
Avoid release to the environment.

Get medical advice/attention if you feel unwell.
Collect spillage.

Dispose of contents/container to hazardous or special waste collection point.

Other hazards

Special danger of slipping by leaking/spilling product.

3. Composition/information on ingredients

Mixtures

Chemical characterization: mixture contains inorganic materials, organic compounds

Relevant ingredients:

CAS No.	Designation	Concentration	Classification
CAS 64742-52-5	Distillates (petroleum), hydrotreated heavy naphthenic	35 - 65 %	Aspiration Toxicity - Category 1.
CAS 61791-53-5	Amines, N-tallow alkyltrimethylenedi-, oleates	2 - 4 %	Skin Irritation - Category 2. Eye Irritation - Category 2A. Specific Target Organ Toxicity (Repeated Exposure) - Category 2. Aquatic toxicity - acute - Category 1 (M-factor = 10). Aquatic toxicity - chronic - Category 2.
CAS 1314-13-2	Zinc oxide	1 - 3 %	Aquatic toxicity - acute - Category 1 (M-factor = 1). Aquatic toxicity - chronic - Category 1 (M-factor = 1).
CAS 64742-54-7	Distillates (petroleum), hydrotreated heavy paraffinic	1 - 3 %	Aspiration Toxicity - Category 1.

The actual concentration or concentration range is withheld as a trade secret.

Additional information:

Contains Polytetrafluorethylene, Distillates (petroleum), solvent-dewaxed heavy paraffinic.
The maximum workplace exposure limits are, where necessary, listed in section 8.
Information about Distillates (petroleum), solvent-dewaxed heavy paraffinic:
Contains <3 % DMSO - extract (IP 346). Here applies the note L.

4. First aid measures

General information:	Take off contaminated clothing and wash it before reuse.
In case of inhalation:	Move victim to fresh air. If you feel unwell, seek medical advice.
Following skin contact:	After contact with skin, wash immediately with soap and plenty of water. In case of skin irritation, consult a physician.
After eye contact:	Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart. Remove contact lenses, if present and easy to do. Continue rinsing. In case of troubles or persistent symptoms, consult an ophthalmologist.
After swallowing:	Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Do not induce vomiting. Seek medical attention.

Most important symptoms/effects, acute and delayed

May cause damage to organs through prolonged or repeated exposure.

Information to physician

Treat symptomatically.

5. Fire-fighting measures

Suitable (and unsuitable) extinguishing media

Suitable extinguishing media:

Water spray jet, dry chemical powder, alcohol resistant foam, carbon dioxide.

Extinguishing media which must not be used for safety reasons:

Full water jet

Specific hazards arising from the chemical

In case of fire may be liberated: metallic oxides, nitrogen oxides (NO_x), carbon monoxide and carbon dioxide, Phosphorus oxides, hydrogen fluoride.

Protective equipment and precautions for firefighters

Wear self-contained positive pressure breathing apparatus and full firefighting protective clothing.

Additional information:

Keep containers cool with water spray until well after the fire is out.
Do not allow fire water to penetrate into surface or ground water.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Provide adequate ventilation. Avoid contact with the substance.
Wear appropriate protective equipment. Keep unprotected people away. Avoid contact with skin and eyes. Keep away from sources of ignition. Take off contaminated clothing and wash it before reuse. Avoid breathing dust/fume/gas/mist/vapors/spray.

Environmental precautions:

Do not allow to penetrate into soil, waterbodies or drains. If necessary, notify appropriate authorities.

Methods and material for containment and cleaning up

Methods for clean-up:

Dam spills. Take up mechanically, placing in appropriate containers for disposal.

Additional information:

Special danger of slipping by leaking/spilling product.

7. Handling and storage

Precautions for safe handling

Advices on safe handling: Provide adequate ventilation. Avoid contact with the substance. Wear appropriate protective equipment. Avoid contact with skin and eyes. Keep away from sources of ignition. Take off contaminated clothing and wash it before reuse. Avoid breathing dust/fume/gas/mist/vapors/spray.

Precautions against fire and explosion:

Keep away from sources of ignition - No smoking.

Conditions for safe storage, including any incompatibilities

Requirements for storerooms and containers:

Keep only in the original container in a cool, well-ventilated place.

Keep container tightly closed and dry. Protect from moisture contamination.

Hints on joint storage:

Do not store together with: oxidizing agents

Keep away from food, drink and animal feedingstuffs.

8. Exposure controls/personal protection

Control parameters

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
1314-13-2	Zinc oxide	USA: ACGIH: STEL	10 mg/m ³ (respirable fraction)
		USA: ACGIH: TWA	2 mg/m ³ (respirable fraction)
		USA: IDLH: TWA	500 mg/m ³
		USA: NIOSH: Ceiling	15 mg/m ³ (Dusts)
		USA: NIOSH: STEL	10 mg/m ³ (Smoke)
		USA: NIOSH: TWA	5 mg/m ³ (Dusts)
		USA: NIOSH: TWA	5 mg/m ³ (Smoke)
		USA: OSHA: TWA	15 mg/m ³ (total dust)
		USA: OSHA: TWA	5 mg/m ³ (respirable fraction or Smoke)

Appropriate engineering controls

Provide adequate ventilation.

The use of local exhaust ventilation is recommended.

Personal protection equipment (PPE)

Respiratory protection:

Wear a dust mask, in case of excessive dust.

When vapors form, use respiratory protection.

Combination filter: Wear half-mask respirator with combination filter for organic vapors and particles.

Hand protection:

Protective gloves according to OSHA Standard - 29 CFR: 1910.138.

Glove material: chloroprene rubber, neoprene, nitrile rubber, polyethylene, ethylene vinyl alcohol laminate (EVAL), polyvinyl alcohol (PVA), fluoro rubber (Viton)

Breakthrough time: > 120 min

Layer thickness: >= 0.35 mm

Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Eye protection:

Tightly sealed goggles according to OSHA Standard - 29 CFR: 1910.133 or ANSI Z87.1-2010.

Body protection: Wear suitable protective clothing.

General hygiene considerations:

Avoid contact with skin and eyes. When using do not eat, drink or smoke. Wash hands before breaks and after work. Avoid breathing dust/fume/gas/mist/vapors/spray. Take off contaminated clothing and wash it before reuse.

Environmental exposure controls

Refer to 6.: Section "Environmental precautions".

9. Physical and chemical properties

Information on basic physical and chemical properties

Physical state at 68 °F and 101.3 kPa	Form: pasty
Color:	white
Odor:	weak
Odor threshold:	No data available
Melting point/freezing point:	No data available
Initial boiling point and boiling range:	No data available
Flammability:	No data available
Explosion limits:	No data available
Flash point/flash point range:	> 392 °F (c.c.)
Evaporation rate:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	No data available
pH:	No data available
Viscosity:	No data available
Water solubility:	insoluble
Partition coefficient: n-octanol/water:	No data available
Vapor pressure:	No data available
Density:	1.14 g/cm ³
Vapor density:	No data available
Particle characteristics:	Not applicable

Additional information

Explosive properties: not explosive

10. Stability and reactivity

Reactivity: Refer to subsection "Possibility of hazardous reactions".

Chemical stability: Stable under recommended storage conditions.

Possibility of hazardous reactions:

Reacts with oxidizing agents

Conditions to avoid: Protect from: heat, humidity

Incompatible materials: Oxidizing agent

Hazardous decomposition products:

Degradation products: fluorinated hydrocarbons

11. Toxicological information

Information on toxicological effects

Toxicological effects: The statements are derived from the properties of the single components. No toxicological data is available for the product as such.

Acute toxicity (oral): Lack of data.

Acute toxicity (dermal): Lack of data.

Acute toxicity (inhalative): Lack of data.

Skin corrosion/irritation: Lack of data.

Serious eye damage/irritation: Lack of data.

Sensitisation to the respiratory tract: Lack of data.

Skin sensitisation: Lack of data.

Germ cell mutagenicity/Genotoxicity: Lack of data.

Carcinogenicity: Lack of data.

Reproductive toxicity: Lack of data.

Effects on or via lactation: Lack of data.

Specific target organ toxicity (single exposure): Lack of data.

Specific target organ toxicity (repeated exposure): Specific Target Organ Toxicity (Repeated Exposure) -

Category 2 = May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard: Lack of data.

Other information: Information about Distillates (petroleum), hydrotreated heavy naphthenic:

LD50 Rat, oral: > 5,000 mg/kg (OECD 401)

LD50 Rabbit, dermal: > 5,000 mg/kg (OECD 402)

LC50 Rat, inhalative, dust/mist: > 5.53 mg/L/4h (OECD 403)

Information about Polytetrafluorethylene

LD50 Rat, oral: > 5,000 mg/kg (estimated)

Information about Distillates (petroleum), solvent-dewaxed heavy paraffinic:

LD50 Rat, oral: > 5,000 mg/kg

LD50 Rabbit, dermal: > 2,000 mg/kg

LC50 Rat, inhalative, dust/mist: > 5 mg/L/4h

Information about Amines, N-tallow alkyltrimethylenedi-, oleates:

LD50 Rat, oral: > 5,000 mg/kg

LD50 Rat, dermal: > 2,000 mg/kg (read across, OECD 402)

Information about Zinc oxide:

LD50 Rat, oral: > 5,000 mg/kg (OECD 401)

LD50 Rat, dermal: > 2,000 mg/kg (OECD 402)

LC50 Rat, inhalative, dust/mist: > 5.7 mg/L/4h (OECD 403)

12. Ecological information

Ecotoxicity

Aquatic toxicity: Very toxic to aquatic life with long lasting effects.

Information about Amines, N-tallow alkyltrimethylenedi-, oleates:

Fish toxicity:

LC50: 0.1 - 1 mg/L

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): > 0.1 - 1 mg/L/48h (read across)

EC10 Daphnia, chronic: > 1 mg/L

Algae toxicity:

EC50 algae: > 0.01 - 0.1 mg/L/72h (read across, OECD 201)

NOEC algae: > 0.01 - 0.1 mg/L/72h (read across, OECD 201)

Information about Zinc oxide:

Fish toxicity:

LC50 Oncorhynchus mykiss: 0.14 - 1.1 mg/L/96h

LC50 Danio rerio (zebrafish): 1 - 10 mg/L/96h

NOEC Danio rerio (zebrafish): >= 0.540 mg/L/32d

Daphnia toxicity:

EC50 Daphnia magna (Big water flea): 1 - 10 mg/L/48h

NOEC Daphnia magna (Big water flea) offspring: 0.04 mg/L/21d

Algae toxicity:

IC50 Selenastrum capricornutum (green algae), growth rate: 0.136 mg/L/72h

Persistence and degradability

Further details: No data available

Bioaccumulative potential

Partition coefficient: n-octanol/water:
No data available

Mobility in soil

No data available

Other adverse effects

General information: Do not allow to penetrate into soil, waterbodies or drains.

13. Disposal considerations

Waste treatment methods

Product

Recommendation: Incinerate as hazardous waste according to applicable local, state, and federal regulations.

Package

Recommendation: Waste key number
ASN150104 Metallic packaging.
ASN150102 Plastic packaging.
Dispose of waste according to applicable legislation.
Empty carefully and completely, if possible.

14. Transport information

UN number

DOT: UN3077
IMDG, IATA-DGR: UN 3077

UN proper shipping name

DOT, IMDG, IATA-DGR: UN 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Amines, N-tallow alkyltrimethylenedi-, oleates, zinc oxide)

Transport hazard class(es)

DOT: 9
IMDG: Class 9, Subrisk -
IATA-DGR: Class 9



Packing group

DOT, IMDG, IATA-DGR: III

Environmental hazards

Marine pollutant: yes

Transport in bulk according to IMO instruments

No data available

Special precautions for user

USA: Department of Transportation (DOT)

Labels: 9
Symbols: G
Special Provisions: 8, 146, 335, 384, 441, A112, B54, B120, IB8, IP3, N20, N91, T1, TP33
Packaging – Exceptions: 155
Packaging – Non-bulk: 213
Packaging – Bulk: 240
Quantity limitations – Passenger aircraft / rail: No limit
Quantity limitations – Cargo only: No limit
Vessel stowage – Location: A

Sea transport (IMDG)

EmS: F-A, S-F
Special Provisions: 274 335 375 966 967 969
Limited quantities: 5 kg
Excepted quantities: E1
Package - Instructions: P002, LP02
Package - Provisions: PP12
IBC - Instructions: IBC08
IBC - Provisions: B3
Tank instructions - IMO: -
Tank instructions - UN: T1, BK2, BK2, BK3
Tank instructions - Provisions: TP33
Stowage and handling: Category A. SW23
Properties and observations: -
Marine pollutant: yes
Segregation group: none

Air transport (IATA)

Proper shipping name: UN 3077,
ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Amines, N-tallow alkyltrimethylenedi-, oleates, zinc oxide)
Hazard label: Miscellaneous & Environmentally hazardous
Excepted Quantity Code: E1
Passenger and Cargo Aircraft: Ltd.Qty.: Pack.Instr. Y956 - Max. Net Qty/Pkg. 30 kg G
Passenger and Cargo Aircraft: Pack.Instr. 956 - Max. Net Qty/Pkg. 400 kg
Cargo Aircraft only: Pack.Instr. 956 - Max. Net Qty/Pkg. 400 kg
Special Provisions: A97 A158 A179 A197 A215
Emergency Response Guide-Code (ERG): 9L

15. Regulatory information

National regulations - U.S. Federal Regulations

Distillates (petroleum), hydrotreated heavy naphthenic: TSCA Inventory: listed; UVCB
Polytetrafluorethylene: TSCA Inventory: listed
Carcinogen Status:
IARC Rating: Group 3
OSHA Carcinogen: not listed
NTP Rating: not listed
Distillates (petroleum), solvent-dewaxed heavy paraffinic: TSCA Inventory: listed; UVCB
Amines, N-tallow alkyltrimethylenedi-, oleates: TSCA Inventory: listed; UVCB
Zinc oxide: TSCA Inventory: listed
NIOSH Recommendations:
Occupational Health Guideline: 0675*
Distillates (petroleum), hydrotreated heavy paraffinic: TSCA Inventory: listed; UVCB

National regulations - U.S. State Regulations

No data available

Further regulations, limitations and legal requirements

No data available

16. Other information

Text for labeling: Contains 35 - 65 % Distillates (petroleum), hydrotreated heavy naphthenic, 2 - 4 % Amines, N-tallow alkyltrimethylenedi-, oleates, 1 - 3 % Zinc oxide, 1 - 3 % Distillates (petroleum), hydrotreated heavy paraffinic.

Revision date: 11/28/2025

Date of first version: 4/7/2016

Reason of change: General revision: Safety Data Sheet according to HCS 2024 (29 CFR 1910.1200)

Hazard rating systems:



NFPA Hazard Rating:

Health: 1 (Slight)

Fire: 3 (Serious)

Reactivity: 0 (Minimal)

HMIS Version III Rating:

Health: 3 (Serious) - Chronic effects

Flammability: 1 (Slight)

Physical Hazard: 0 (Minimal)

Personal Protection: X = Consult your supervisor

HEALTH	*	3
FLAMMABILITY		1
PHYSICAL HAZARD		0
		X

Abbreviations and acronyms:

Aquatic toxicity - acute: Hazardous to the aquatic environment - acute
 Aquatic toxicity - chronic: Hazardous to the aquatic environment - chronic
 AS/NZS: Australian Standards/New Zealand Standards
 Aspiration Toxicity: Aspiration toxicity
 CAS: Chemical Abstracts Service
 CFR: Code of Federal Regulations
 CLP: Classification, Labelling and Packaging
 DMEL: Derived minimal effect level
 DNEL: Derived no-effect level
 DOT: Department of Transportation's Safety Regulations (USA)
 EC: European Community
 EC50: Effective Concentration 50%
 EmS: Emergency Response Procedures for Ships Carrying Dangerous Goods
 EN: European Standard
 EQ: Excepted quantities
 Eye Irritation: Eye irritation
 IATA: International Air Transport Association
 IATA-DGR: International Air Transport Association – Dangerous Goods Regulations
 IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IC50: Inhibition Concentration 50%
 IMDG Code: International Maritime Dangerous Goods Code
 IMO: International Maritime Organization
 LC50: Median lethal concentration
 LD50: Lethal dose 50%
 MARPOL: Maritime Pollution: The International Convention for the Prevention of Pollution from Ships
 M-factor: Multiplication factor
 NOEC: No Observed Effect Concentration
 OECD: Organisation for Economic Co-operation and Development
 OSHA: Occupational Safety and Health Administration
 PBT: Persistent, bioaccumulative and toxic
 PNEC: Predicted no-effect concentration
 Skin Irritation: Skin irritation
 STOT RE: Specific target organ toxicity - repeated exposure
 TRGS: Technical Rules for Hazardous Substances
 UN: United Nations
 vPvB: Very persistent and very bioaccumulative

Department issuing data sheet

Contact person: see section 1: Department responsible for information

The information in this data sheet has been established to our best knowledge and was up-to-date at time of revision. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations.