1. Product and company identification

Product identifier

Trade name: 519L5 - Silicone Parting Agent Spray

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

General use: release agent and lubricating agent, for orthopedic procedures.
Reserved for industrial and professional use.

Details of the supplier of the safety data sheet

Company name: Otto Bock Health Care
Street/POB-No.: 3820 W. Great Lakes Drive
Postal Code, city: Salt Lake City, UT 84120
USA
WWW: www.ottobockus.com
Telephone: +1 (801) 956-2400
Telefax: +1 (801) 956-2401
Dept. responsible for information:
Quality Department,
Telephone: +1 (801) 954-2304 (7 AM – 3 PM, Mountain Time), Email: USRegulatory@ottobock.com

Emergency phone 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. Hazards identification

Emergency overview

Appearance: Form: liquid with compressed propellant
Color: colorless
Odor: weak

Classification: Flammable Aerosol - Category 1; Compressed Gas;

Hazard symbols:

Signal word: **Danger**

Hazard statements: Extremely flammable aerosol.
Contains gas under pressure; may explode if heated.

Precautionary statements:
Avoid breathing vapors.
Use only outdoors or in a well-ventilated area.
Protect from sunlight. Store in a well-ventilated place.

Regulatory status

This material is considered hazardous by the U.S. OSHA Hazard Communication Standard (29 CFR 1910.1200) and SIMDUT in Canada.

Hazards not otherwise classified

Propellent:
Contact with the product can cause cold burns or frostbite.
see section 11: Toxicological information

3. Composition / Information on ingredients

Chemical characterization: Preparation with Polydimethylsiloxane and propellent.

Hazardous ingredients:

CAS No.	Designation	Content	Classification
CAS 106-97-8	n-Butane, <0,1% 1,3-Butadiene	>= 50 %	Flammable Gas - Category 1. Liquefied Gas.
CAS 74-98-6	Propane	< 20 %	Flammable Gas - Category 1. .

4. First aid measures

General information: In case of accident or if you feel unwell, seek medical advice immediately.

In case of inhalation: Move victim to fresh air. If breathing becomes irregular or ceases, apply mouth-to-mouth resuscitation or artificial respiration immediately, where required supply oxygen.
Seek medical aid in case of troubles.

Following skin contact: After contact with skin, wash immediately with soap and plenty of water.
Cover frostbitten skin with sterile tissue.
Seek medical aid in case of troubles.

After eye contact: Immediately flush eyes with plenty of flowing water for 10 to 15 minutes holding eyelids apart.
Seek medical attention if irritation persists.

Most important symptoms/effects, acute and delayed

In case of inhalation: Vapors may cause drowsiness and dizziness.
In high concentration the gas may cause a suffocation.
After contact with skin: Propellent:
Contact with the product can cause cold burns or frostbite.

Information to physician

Treat symptomatically.

5. Fire fighting measures

Flash point/flash point range:
(n-Butane) -76 °F

Auto-ignition temperature: no data available

Suitable extinguishing media:
Water fog, foam, carbon dioxide

Extinguishing media which must not be used for safety reasons:
High power water jet

Specific hazards arising from the chemical

Extremely flammable aerosol.
In case of fire may be liberated: silicon dioxide, carbon monoxide and carbon dioxide.

Protective equipment and precautions for firefighters:
Wear self-contained breathing apparatus.

Additional information: Heating causes rise in pressure with risk of bursting.
Fight fire from a safe distance.
Cool endangered containers with water spray and, if possible, remove from danger zone.

6. Accidental release measures

Personal precautions: Wear suitable protective clothing. Keep unprotected people away.
Do not breathe vapor or spray. Avoid contact with skin and eyes.
Be aware that gases can spread at ground level (heavier than air) and pay attention to the wind direction.
Remove all sources of ignition.

Environmental precautions:
Do not allow to enter soil, sewage, water bodies, lower level rooms or pits.
Gas/vapor is heavier than air and can accumulate in closed spaces, particularly on the ground/in lower lying areas.
Supress gases/vapours/mists with water spray jet.

Methods for clean-up: Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Provide adequate ventilation.
Special danger of slipping by leaking/spilling product.
Clean contaminated area with soap and water.

Additional information: Remove all sources of ignition.

7. Handling and storage

Handling

Advices on safe handling: Provide good ventilation and/or an exhaust system in the work area.
Keep away from sources of ignition. - No smoking.
Do not breathe vapor or spray.
Do not spray in the eyes.

Precautions against fire and explosion:
Avoid heat to prevent pressure buildup. Air combined with vapors may form potentially explosive mixtures that are heavier than air.
Protect from direct exposure to sunlight and temperatures exceeding 122 °F.
Keep away from sources of ignition. - No smoking.
Take precautionary measures against static discharges.
Do not open or incinerate, even when empty. Do not spray into flames or on incandescent objects.

Specific use(s) release agent and lubricating agent for for orthopedic procedures.

Storage

Requirements for storerooms and containers:
Keep container tightly closed in a cool, well-ventilated place.
Protect from heat and direct sunlight. Keep container dry.

Hints on joint storage: Keep away from combustible material. Keep away from oxidizers.

8. Exposure controls / personal protection

Exposure guidelines

Occupational exposure limit values:

CAS No.	Designation	Type	Limit value
106-97-8	n-Butane, <0,1% 1,3-Butadiene	USA: ACGIH: TWA	2370 mg/m³; 1000 ppm
		USA: NIOSH: TWA	1900 mg/m³; 800 ppm
74-98-6	Propane	USA: NIOSH: TWA	1800 mg/m³; 1000 ppm
		USA: OSHA: TWA	1800 mg/m³; 1000 ppm

Engineering controls

Combustible. Take precautionary measures against static discharges.
Provide good ventilation and/or an exhaust system in the work area.
See also information in chapter 7, section storage.

Personal protection equipment (PPE)

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

Skin protection: Wear suitable protective clothing.

not required Protective gloves according to OSHA Standard - 29 CFR: 1910.138.
Glove material: Nitrile rubber, or fluoro rubber.
Observe glove manufacturer's instructions concerning penetrability and breakthrough time.

Respiratory protection: Respiratory protection must be worn whenever the TLV (WEL) levels have been exceeded.

Use filter against vapors of low boiling organic substances according to OSHA Standard - 29 CFR: 1910.134 or ANSI Z88.2.

The following applies to propane in general:
If the concentration is exceeded, closed-circuit breathing apparatus must be used!

General hygiene considerations:

Keep away from sources of ignition. - No smoking. Do not breathe vapors.
Avoid contact with skin and eyes.
When using do not eat, drink or smoke.

Environmental exposure controls

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

9. Physical and chemical properties

Information on basic physical and chemical properties

Appearance: Form: liquid with compressed propellant
Color: colorless

Odor: weak

Odor threshold: no data available

pH value: no data available

Melting point/freezing point:	no data available
Initial boiling point and boiling range:	no data available
Flash point/flash point range:	(n-Butane) -76 °F
Evaporation rate:	no data available
Flammability:	no data available
Explosion limits:	LEL (Lower Explosion Limit): 1.50 Vol-% UEL (Upper Explosive Limit): 10.00 Vol-%
Vapor pressure:	at 68 °F: 2700 hPa at 122 °F: 7300 hPa
Vapor density:	no data available
Density:	at 68 °F: 0.6 g/mL
Water solubility:	at 68 °F: practically insoluble
Partition coefficient: n-octanol/water:	no data available
Auto-ignition temperature:	no data available
Thermal decomposition:	> 250°C (Polydimethylsiloxane)
Ignition temperature:	(n-Butane) 689 °F (DIN 51794)

10. Stability and reactivity

Reactivity: Extremely flammable aerosol.

Chemical stability: Product is stable under normal storage conditions.

Possibility of hazardous reactions

Container under pressure.
Do not expose to high temperature. Danger of bursting and explosion.
Vapors form explosive mixtures with air.

Conditions to avoid: Keep away from heat sources, sparks and open flames.
Protect from direct exposure to sunlight and temperatures exceeding 122 °F.

Incompatible materials: Reacts violently with strong oxidizing agents. (Danger of explosion)

Hazardous decomposition products:

For the silicone component:
Measurements taken at temperatures exceeding 302 °F have revealed that a small quantity of formaldehyde splits off through oxidative decomposition.

Thermal decomposition: > 250°C (Polydimethylsiloxane)

11. Toxicological information

Toxicological tests

Acute toxicity: LD50 Rat, oral: > 5000 mg/kg (Literature)
LD50 Rat, dermal: > 2008 mg/kg (ext. test report)

Toxicological effects: Acute toxicity (oral): Lack of data.
Acute toxicity (dermal): Lack of data.
Acute toxicity (inhalative): Lack of data.
Skin corrosion/irritation: Lack of data.
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): Lack of data.
Aspiration hazard: Lack of data.

In case of inhalation: Vapors may cause drowsiness and dizziness.
In high concentration the gas may cause a suffocation.

Following skin contact: Not an irritant (Rabbit; ext. test report)
not sensitising (Method Magnusson-Klingmann, Guinea pig - ext. test report)

After eye contact: mild irritant (Rabbit; ext. test report)

Other information: For the silicone component:
Physiologically benign according to current data (not a mutagen, carcinogen or teratogen).
skin: Not an irritant (Rabbit; ext. test report)
not sensitising (Method Magnusson-Klingmann, Guinea pig - ext. test report)
eye: mild irritant (Rabbit; ext. test report)

Symptoms

In case of inhalation: Vapors may cause drowsiness and dizziness.
In high concentration the gas may cause a suffocation.
After contact with skin: Propellent:
Contact with the product can cause cold burns or frostbite.

12. Ecological information

Ecotoxicity

Aquatic toxicity: According to experience to date, toxicity to fish is not expected.

Effects in sewage plants: According to current data, no harmful effects are expected with release to sewage treatment facility.

Mobility in soil

no data available

Persistence and degradability

Further details: For the silicone component:
Product is not biodegradable. Polydimethylsiloxane are to a certain extent partly degradable through abiotic processes.

Additional ecological information

Volatile organic compounds (VOC):
75 % by weight = 450 g/L

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

13. Disposal considerations

Product

Recommendation: Special waste. Dispose of waste according to applicable legislation.
Do not open with force or incinerate, even when empty.
Do not dispose of with household waste.

Contaminated packaging

Recommendation: Empty carefully and completely, if possible.
Dispose of waste according to applicable legislation. Handle contaminated packages in the same way as the substance itself.
Handle empty containers with care. Incineration may cause explosion.

14. Transport information

USA: Department of Transportation (DOT)

Identification numbers:	UN1950
Proper shipping name:	UN 1950, AEROSOLS
DOT hazard class or division:	2.1
Label codes:	2.1
Special provisions:	N82
Packaging - Exceptions:	306
Packaging - Non-bulk:	None
Packaging - Bulk:	None
Quantity limitations - Passenger aircraft / rail:	75 kg
Quantity limitations - Cargo only:	150 kg
Vessel stowage - Location:	A
Vessel stowage - Other:	25, 87, 126

Sea transport (IMDG)

UN number:	UN 1950
Proper shipping name:	UN 1950, AEROSOLS
IMDG:	Class 2, Subrisk -, see SP63
Packing Group:	-
EmS:	F-D, S-U
Special provisions:	63, 190, 277, 327, 344, 959
Limited quantities:	See SP277
EQ:	E0
Contaminated packaging - Instructions:	P207, LP02
Contaminated packaging - Provisions:	PP87, L2
IBC - Instructions:	-
IBC - Provisions:	-
Tank instructions - IMO:	-
Tank instructions - UN:	-
Tank instructions - Provisions:	-
Stowage and handling:	SW1 SW22
Segregation:	SG69
Properties and observations:	-
Marine pollutant:	no

Air transport (IATA)

UN/ID number:	UN 1950
Proper shipping name:	UN 1950, AEROSOLS, flammable
ICAO/IATA:	Class 2.1
Hazard:	Flamm. gas
EQ:	E0
Passenger Ltd.Qty.:	Pack.Instr. Y203 - Max. Net Qty/Pkg. 30 kg G
Passenger:	Pack.Instr. 203 - Max. Net Qty/Pkg. 75 kg
Cargo:	Pack.Instr. 203 - Max. Net Qty/Pkg. 150 kg
Special Provisioning:	A145 A167 A802
ERG:	10L

15. Regulatory information

National regulations - U.S. Federal Regulations

n-Butane, <0,1% 1,3-Butadiene:
TSCA Inventory: listed
TSCA HPVC: not listed
Clean Air Act:
Accidental Release Prevention: Threshold 10000 lbs. / Basis for listing = f
NIOSH Recommendations:
Occupational Health Guideline: 0068*

Propane:
TSCA Inventory: listed
TSCA HPVC: not listed
Clean Air Act:
Accidental Release Prevention: Threshold 10000 lbs. / Basis for listing = f
NIOSH Recommendations:
Occupational Health Guideline: 0524

National regulations - U.S. State Regulations

n-Butane, <0,1% 1,3-Butadiene:
Delaware Air Quality Management List:
DRQ: F 1000** - RQ State: State requirements differs from Federal
Massachusetts Haz. Substance codes: 4,5,6
Minnesota Haz. Substance:
Codes: A - Ratings: - - Status: Title III
New Jersey RTK Hazardous Substance:
DOT: 1011 - Sub No.: 0273 - TPQ: -
Pennsylvania Haz. Substance code: -
Washington Air Contaminant:
TWA: 800 ppm - 1900 mg

Propane:
California Proposition 65 code: -
Delaware Air Quality Management List:
DRQ: F 1000** - RQ State: State requirements differs from Federal
Massachusetts Haz. Substance codes: 2,4,5,6
Minnesota Haz. Substance:
Codes: AP - Ratings: - - Status: Title III
New Jersey RTK Hazardous Substance:
DOT: 1978 - Sub No.: 1594 - TPQ: -
Pennsylvania Haz. Substance code: -
Washington Air Contaminant:
TWA: 1000 ppm - 1800 mg

National regulations - Great Britain

Hazchem-Code: -

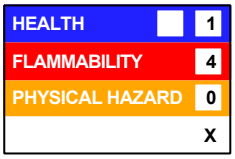
16. Other information

Text for labeling: Contains >= 50 % n-Butane, <0,1% 1,3-Butadiene, < 20 % Propane. Safety data sheet available on request.

Hazard rating systems:

NFPA Hazard Rating:
Health: 1 (Slight)
Fire: 4 (Severe)
Reactivity: 0 (Minimal)

HMIS Version III Rating:
Health: 1 (Slight)
Flammability: 4 (Severe)
Physical Hazard: 0 (Minimal)
Personal Protection: X = Consult your supervisor



Reason of change: Changes in section 1: Address
Date of first version: 8/12/1994

Department issuing data sheet

Contact person: see section 1: Dept. 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.