



SECTION 1: IDENTIFICATION

PRODUCT IDENTIFIER

Product Name: Medical Grade Dispersion, aminofunctional siloxane

Product Code: A-104

Intended Use(s): Lubricants and lubricant additives

CONTACT INFORMATION FOR RESPONSIBLE

PARTY

Factor II,
Incorporated PO
Box 1339
5642 White Mountain
Ave Lakeside AZ
85929
928-537-8387
800-332-8688
www.factor2.com
sales@factor2.com

EMERGENCY TELEPHONE NUMBERS

Factor II, Incorporated
Americas : 1 928 368 7502

SECTION 2: HAZARD(S) IDENTIFICATION

Hazard classifications

GHS classification in accordance with 29 CFR 1910.1200

Flammable liquids - Category 2

Skin irritation – Category 2

Eye irritation – Category 2A

Specific target organ toxicity – single exposure – Category 3

Specific target organ toxicity – repeated exposure – Category 1

Label elements

Hazard Pictogram(s)



Single Word: **DANGER!**

Hazards

Highly flammable liquid and vapor

Causes skin irritation

Causes serious eye irritation



May cause drowsiness or dizziness
Causes damage to central nervous system through prolonged or repeated exposure

Precautionary statement(s)

Prevention

Keep away from heat/sparks/open flame/hot surfaces, no smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Do not breathe dust/ fume/ gas/ mist/ vapors/ spray
Wash skin thoroughly after handling
Do not eat, drink or smoke when using this product
Use only outdoors or in a well-ventilated area
Wear protective gloves/protective clothing/eye protection/ face protection

Response

IF ON SKIN (or hair): Immediately remove all contaminated clothing. Rise skin with water/ shower.
IF INHALED: Remove victim to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF exposed or concerned: Get medical advice/ attention.
If skin irritation occurs: Get medical advice/ attention.
If eye irritation persists: Get medical advice/ attention.
Take off contaminated clothing and wash it before reuse.
In case of fire: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide to extinguish.

Storage

Store in a well-ventilated place. Keep container tightly closed.
Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal

Dispose of contents/container to an approved waste disposal plant.

Other hazard(s)

:
Static-accumulating flammable liquid.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Chemical nature: Aminofunctional Siloxane

This product is a mixture.



Ingredient	CASRN	Concentration (%)
Dimethyl siloxane, 3-(2-aminoethyl)aminopropyl dimethoxysiloxy-terminated	71750-80-6	>=47.0 - <=49%
Medium aliphatic solvent naphtha (petroleum)	64742-88-7	>=35.0-<=36.0%
Isopropanol	67-63-0	>=15.0-<=16.0%
Methanol	67-56-1	>=0.5 - <2.0%

SECTION 4: FIRST-AID MEASURES

Description of first aid measures

General advice:

First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

Inhalation:

Move person to fresh air. If not breathing, give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask, etc). If breathing is difficult, oxygen should be administered by qualified personnel. Call a physician or transport to a medical facility.

Skin contact:

Wash off with plenty of water.

Eye contact:

Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist. Suitable emergency eye wash facility should be available in work area.

Ingestion:

Do NOT induce vomiting. Seek medical attention immediately. If person is fully conscious give 1 cup or 8 ounces (240 ml) of water. If medical advice is delayed and if an adult has swallowed several ounces of chemical, then give 3-4 ounces (1/3-1/2 Cup) (90-120 ml) of hard liquor such as 80 proof whiskey. For children, give proportionally less liquor at a dose of 0.3 ounce (1 1/2 tsp.) (8 ml) liquor for each 10 pounds of body weight, or 2 ml per kg body weight [e.g., 1.2 ounce (2 1/3 tbsp.) for a 40 pound child or 36 ml for an 18 kg child].

Most important symptoms and effects, both acute and delayed:

Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information

Note to physician

In cases where several ounces (60 - 100 ml) have been ingested, consider the use of ethanol and hemodialysis in the treatment. Consult standard literature for details of treatment. If ethanol is used, a therapeutically effective blood concentration in the range of 100 - 150 mg/dl may be achieved by a rapid loading dose followed by a continuous intravenous infusion. Consult standard literature for details of treatment. 4-Methyl pyrazole (Antizol®) is an effective blocker of alcohol dehydrogenase and should be used in the treatment of ethylene glycol (EG), di- or triethylene



glycol (DEG, TEG), ethylene glycol butyl ether (EGBE), or methanol intoxication if available. Fomepizole protocol (Brent, J. et al., New England Journal of Medicine, Feb. 8, 2001, 344:6, p. 424-9): loading dose 15 mg/kg intravenously, follow by bolus dose of 10 mg/kg every 12 hours; after 48 hours, increase bolus dose to 15 mg/kg every 12 hours. Continue fomepizole until serum methanol, EG, DEG, TEG or EGBE are undetectable. The signs and symptoms of poisoning include anion gap metabolic acidosis, CNS depression, renal tubular injury, and possible late stage cranial nerve involvement. Respiratory symptoms, including pulmonary edema, may be delayed. Persons receiving significant exposure should be observed 24-48 hours for signs of respiratory distress. In severe poisoning, respiratory support with mechanical ventilation and positive end expiratory pressure may be required. Maintain adequate ventilation and oxygenation of the patient. If lavage is performed, suggest endotracheal and/or esophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.

SECTION 5: FIRE-FIGHTING MEASURES**Suitable extinguishing media**

Water spray, alcohol-resistant foam, carbon dioxide (CO₂), dry chemical

Unsuitable extinguishing media

High volume water jet. Do not use direct water stream

Specific hazards arising from the substance or mixture

Hazardous combustion products: Carbon oxides

Advice for firefighters

Fire Fighting Procedures: Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Do not use a solid water stream as it may scatter and spread fire.

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.

SECTION 6: ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures:**

Remove all sources of ignition. Ventilate the area. Use personal protective equipment. Follow safe handling advice and personal protective equipment recommendations.

Environmental precautions:

Do not release the product to the aquatic environment above defined regulatory levels. Prevent further leakage or spillage if safe to do so. Prevent spreading over a wide area (e.g. by containment or oil



barriers). Retain and dispose of contaminated wash water. Local authorities should be advised if significant spillages cannot be contained.

Methods and materials for containment and cleaning up:

Non-sparking tools should be used. Soak up with inert absorbent material. Suppress (knock down) gases/vapours/mists with a water spray jet. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the clean-up of releases. You will need to determine which regulations are applicable. For large spills, provide dyking or other appropriate containment to keep material from spreading. If dyked material can be pumped, Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

See sections: 7, 8, 11, 12 and 13.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling: Do not get on skin or clothing. Do not breathe vapours or spray mist. Do not swallow. Do not get in eyes. Keep container tightly closed. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Take care to prevent spills, waste and minimize release to the environment. Non-sparking tools should be used. Handle in accordance with good industrial hygiene and safety practice.

Use with local exhaust ventilation. Use only in an area equipped with explosion proof exhaust ventilation. Ensure all equipment is electrically grounded before beginning transfer operations. This material can accumulate static charge due to its inherent physical properties and can therefore cause an electrical ignition source to vapors. In order to prevent a fire hazard, as bonding and grounding may be insufficient to remove static electricity, it is necessary to provide an inert gas purge before beginning transfer operations. Restrict flow velocity in order to reduce the accumulation of static electricity. Ground and bond container and receiving equipment.

Conditions for safe storage: Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. Keep away from heat and sources of ignition.

Do not store with the following product types: Strong oxidizing agents. Organic peroxides. Flammable solids. Pyrophoric liquids. Pyrophoric solids. Self-heating substances and mixtures. Substances and mixtures, which in contact with water, emit flammable gases. Explosives. Gases.

Unsuitable materials for containers: None known.

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

If exposure limits exist, they are listed below. If no exposure limits are displayed, then no values are applicable

Component	Regulation	Type of listing)	Value/Notation
Medium aliphatic solvent naphtha (petroleum)	OSHA Z-1	TWA	2,000 mg/m3 500ppm



	ACGHI	TWA	200 mg/m3, total hydrocarbon vapor
Isopropanol	ACGIH	TWA	200 ppm
	ACGHI	STEL	400 ppm
	OSHA Z-1	TWA	980 mg/m3 400 ppm
Methanol	ACGIH	TWA	200 ppm
	ACGIH	STEL	250 ppm
	ACGIH	TWA	SKIN
	OSHA Z-1	TWA	260 mg/m3 200 ppm
	ACGIH	STEL	SKIN

BIOLOGICAL OCCUPATIONAL EXPOSURE LIMITS

Components	CAS Number	Control parameters	Biological specimen	Sampling time	Permissible concentration	Basis
Isopropanol	67-63-0	Acetone	Urine	End of shift at end of work week	40 mg/l	ACGIH BEI
Methanol	67-56-1	Methanol	Urine	End of shift (as soon as possible after exposure ceases)	15 mg/l	ACGIH BEI

Exposure controls

Engineering Controls

Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations.

Individual protection measures

Eye/face protection: Use safety glasses (with side shields).

Skin protection

Hand protection: Use gloves chemically resistant to this material. Examples of preferred glove barrier materials include: Chlorinated polyethylene. Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyethylene. Ethyl vinyl alcohol laminate ("EVAL"). Polyvinyl alcohol ("PVA"). Polyvinyl chloride ("PVC" or "vinyl"). Viton. Examples of acceptable glove barrier materials include: Butyl rubber. Natural rubber ("latex").
NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.



Other protection: Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task.

Respiratory protection

Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, use an approved respirator. When respiratory protection is required, use an approved positive-pressure self-contained breathing apparatus or positive-pressure airline with auxiliary self-contained air supply. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Physical state	Liquid
Color	Straw-colored
Odor	Solvent-like
Odor Threshold	No data available
pH	No data available
Melting point/range	No data available
Freezing point	No data available
Boiling point (760 mmHg)	>82 °C (> 180 °F)
Flash point	Seta closed cup 17 °C (63 °F)
Evaporation Rate (Butyl Acetate = 1)	No data available
Flammability (solid, gas)	No applicable
Lower explosion limit	No data available
Upper explosion limit	No data available
Vapor pressure	No data available
Relative Vapor Pressure (air = 1)	No data available
Relative Density (water = 1)	0.865
Water solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Kinematic Viscosity	160 cSt at 25 °C (77 °F)
Explosive properties	Not explosive
Oxidizing properties	The substance or mixture is not classified as oxidizing
Molecular weight	No data available
Particle size	Not applicable

NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: Not classified as a reactivity hazard

Chemical stability: Stable under normal conditions

Possibility of Hazardous reactions: Can react with strong oxidizing agents. Vapors may form explosive



mixture with air. Highly flammable liquid and vapor

Conditions to avoid: Avoid heat, flames and sparks.

Incompatible materials: Oxidizing agents

Hazardous thermal products: No hazardous decomposition products are known

SECTION 11: TOXICOLOGICAL INFORMATION

Toxicological information appears in this section when such data is available.

Acute Toxicity

Acute oral toxicity

Product test data not available. Refer to component data.

Acute dermal toxicity

Product test data not available. Refer to component data.

Acute inhalation toxicity

Product test data not available. Refer to component data.

Skin corrosion/irritation

Product test data not available. Refer to component data.

Serious eye damage/ eye irritation

Product test data not available. Refer to component data.

Sensitization

Product test data not available. Refer to component data.

Specific Target Organ Systemic Toxicity (Single Exposure)

Product test data not available. Refer to component data.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Product test data not available. Refer to component data.

Mutagenicity

Product test data not available. Refer to component data.

Aspiration Hazard

Product test data not available. Refer to component data.

COMPONENTS INFLUENCING TOXICOLOGY:

Dimethyl siloxane, 3-(2-aminoethyl) aminopropyldimethoxysiloxy- terminated

Acute oral toxicity

Single dose oral LD50 has not been determined.

Acute dermal toxicity

The dermal LD50 has not been determined



Acute inhalation toxicity

No adverse effects are anticipated from single exposure to mist.
The LC50 has not been determined.

Skin corrosion/irritation

Brief contact may cause skin irritation with local redness.

Serious eye damage/irritation

May cause eye irritation.

Sensitization

For skin sensitization: No relevant data found.

For respiratory sensitization: No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

Available data are inadequate to determine single exposure specific target organ toxicity.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

No relevant data found.

Carcinogenicity

No relevant data found.

Teratogenicity

No relevant data found.

Reproductive toxicity

No relevant data found.

Mutagenicity

No relevant data found.

Aspiration Hazard

Based on available information, aspiration hazard could not be determined.

Medium aliphatic solvent naphtha (petroleum)

Acute oral toxicity

LD50, Rat, male and female, > 5,000 mg/kg OECD Test Guideline 420

Acute dermal toxicity

LD50, Rabbit, male and female, > 2,000 mg/kg OECD Test Guideline 402 No deaths occurred at this concentration.

Acute inhalation toxicity

LC50, Rat, male and female, 4 Hour, Vapour, > 5.28 mg/l No deaths occurred at this concentration.

Skin corrosion/irritation

Brief contact may cause slight skin irritation with local redness.



Serious eye damage/ eye irritation

Essentially non irritating to eyes.

Sensitization

For respiratory sensitization: No relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

May cause drowsiness or dizziness.

Route of Exposure: Inhalation

Target Organs: Central Nervous System

Specific Target Organ Systemic Toxicity (Repeated Exposure)

For similar material(s):

In humans, effects have been reported on the following organs: Central nervous system.

In animals, effects have been found on the following organs: Liver and Kidney.

Carcinogenicity

For similar material(s): based on animal studies, this material demonstrates limited evidence of carcinogenicity. Kidney effects and/or tumors have been observed in male rats. These effects are believed to be in species specific and unlikely to occur in humans.

Teratogenicity

For similar material(s): did not cause birth defects or other effects in the fetus even at doses which caused toxic effects in the mother.

Reproductive Toxicity

For similar material(s): In animal studies, did not interfere with reproduction.

Mutagenicity

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Aspiration Hazard

May be fatal if swallowed and enters airways.

Isopropanol

Acute oral toxicity

May cause central nervous system depression. Signs and symptoms of excessive exposure may include: Facial flushing. Low blood pressure. Irregular heartbeats. May cause nausea and vomiting.
LD50, Rat, 5,840 mg/kg OECD 401 or equivalent

Acute dermal toxicity

LD50, Rabbit, > 12,800 mg/kg

Acute inhalation toxicity

LC50, Rat, male and female, 6 Hour, vapour, > 10000 ppm

Skin corrosion/irritation

Prolonged exposure not likely to cause significant skin irritation.
May cause drying and flaking of skin.



Serious eye damage/ eye irritation

May cause pain disproportionate to the level of irritation to eye tissues.
May cause moderate eye irritation.
May cause moderate corneal injury.
Vapor may cause eye irritation experienced as mild discomfort and redness.
Vapor may cause lacrimation (tears)

Sensitization

Did not demonstrate the potential for contact allergy in mice.
Did not cause allergic skin reactions when tested in guinea pigs.
For respiratory sensitization: no relevant data found.

Specific Target Organ Systemic Toxicity (Single Exposure)

May cause drowsiness or dizziness.
Route of Exposure: Ingestion
Target Organs: Central nervous system.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Based on available data, repeated exposures are not anticipated to cause additional significant adverse effects.

Carcinogenicity

Did not cause cancer in laboratory animals.

Teratogenicity

Isopropanol has been toxic to the fetus in laboratory animals at doses toxic to the mother.

Reproductive Toxicity

In animal studies, did not interfere with reproduction. In animal studies, did not interfere with fertility.

Mutagenicity

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

Aspiration Hazard

Aspiration into the lungs may occur during ingestion or vomiting, resulting in rapid absorption and injury to other body systems.

Methanol

Acute oral toxicity

Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver, kidney, and heart. Effects may be delayed. LD50, Rat, > 5,000 mg/kg
Lethal Dose, Humans, 340 mg/kg Estimated.
Lethal Dose, Humans, 29 - 237 ml Estimated.

Acute dermal toxicity

Effects of methanol are the same as observed via oral and inhalation exposure and include central nervous system (CNS) depression, visual impairment up to blindness, metabolic acidosis, with effects on organ systems such as liver, kidneys, and heart, even death. Acute toxicity estimate 300 mg/kg.



Acute inhalation toxicity

Easily attainable vapor concentrations may cause serious adverse effects, even death. At lower concentrations: May cause respiratory irritation and central nervous system depression. Symptoms may include headache, dizziness and drowsiness, progressing to incoordination and unconsciousness. Inhalation of methanol may cause effects ranging from headache, narcosis and visual impairment to metabolic acidosis, blindness, and even death. Effects may be delayed.
LC50, Rat, 4 Hour, vapour, 3 mg/l.

Skin corrosion/irritation

Prolonged contact may cause slight skin irritation with local redness.

Sensitization

For skin sensitization: No relevant data found.
For respiratory sensitization: No relevant data found.

Specific Target Organ Systemic Toxicity (Single exposure)

Causes damage to organs.
Route of Exposure: Oral.
Target Organs: Eyes, Central nervous system.

Specific Target Organ Systemic Toxicity (Repeated Exposure)

Methanol is highly toxic to humans and may cause central nervous system effects, visual disturbances up to blindness, metabolic acidosis, and degenerative damage to other organs including liver kidney, and heart.

Carcinogenicity

Did not cause cancer in laboratory animals.

Teratogenicity

Methanol has caused birth defects in mice at doses nontoxic to mother as well as slight behavioural effects in offspring of rats.

Reproductive Toxicity

In animal studies, did not interfere with reproduction.

Mutagenicity

In vitro genetic toxicity studies were negative. Animal genetic toxicity studies were negative in some cases and positive in other cases.

Aspiration Hazard

May be harmful if swallowed and enters airways.

Carcinogenicity Component
Medium aliphatic solvent
naphtha (petroleum)

List
ACGIH

Classification
A3: Confirmed animal
carcinogen with unknown
relevance to humans.



SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicological information appears in this section when such data is available.

Toxicity

Dimethyl siloxane, 3-(2-aminoethyl)aminopropyldimethoxysiloxy-terminated

Acute toxicity to fish

No relevant data found.

Medium aliphatic solvent naphtha (petroleum)

Acute toxicity to fish

Material is moderately toxic to aquatic organisms on an acute basis (LC50/EC50 between 1 and 10 mg/L in the most sensitive species tested).

Based on information for a similar material:

LL50, *Oncorhynchus mykiss* (rainbow trout), semi-static test, 96 Hour, 2 - 5 mg/l

Acute toxicity to aquatic invertebrates

EL50, *Daphnia magna* (Water flea), Static, 48 Hour, 1.4 mg/l, OECD Test Guideline 202

Acute toxicity to algae/aquatic plants

EL50, *Pseudokirchneriella subcapitata* (green algae), Static, 96 Hour, Growth rate inhibition, 1 - 3 mg/l, OECD Test Guideline 201

Chronic toxicity to aquatic invertebrates

For similar material(s):

NOEC, *Daphnia magna*, semi-static test, 21 d, 0.81 mg/l

Isopropanol

Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, *Pimephales promelas* (fathead minnow), flow-through test, 96 Hour, 9,640 mg/l, OECD Test Guideline 203 or Equivalent

Acute toxicity to aquatic invertebrates

LC50, *Daphnia magna* (Water flea), static test, 24 Hour, > 1,000 mg/l, OECD Test Guideline 202 or Equivalent

Acute toxicity to algae/aquatic plants

NOEC, alga *Scenedesmus* sp., static test, 7 d, Growth inhibition (cell density reduction), 1,800 mg/l
ErC50, alga *Scenedesmus* sp., static test, 72 Hour, Growth rate inhibition, > 1,000 mg/l

Toxicity to bacteria

EC50, activated sludge, > 1,000 mg/l

Chronic toxicity to aquatic invertebrates

NOEC, *Daphnia magna* (Water flea), semi-static test, 21 d, 30 mg/l

Methanol



Acute toxicity to fish

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, Bluegill sunfish (*Lepomis macrochirus*), flow-through test, 96 Hour, 15,400 mg/l

Acute toxicity to aquatic invertebrates

LC50, *Daphnia magna* (Water flea), 48 Hour, > 10,000 mg/l

Acute toxicity to algae/aquatic plants

ErC50, *Pseudokirchneriella subcapitata* (green algae), 96 Hour, Growth rate, 22,000 mg/l, OECD Test Guideline 201 or Equivalent

Toxicity to bacteria

IC50, activated sludge, 3 Hour, Respiration rates, > 1,000 mg/l, OECD Test Guideline 209

Chronic toxicity to fish

NOEC, *Oryzias latipes* (Orange-red killifish), 200 Hour, 15,800 mg/l

Persistence and degradability

Dimethyl siloxane, 3-(2-aminoethyl)aminopropyldimethoxysiloxy-terminated

Biodegradability: No relevant data found.

Medium aliphatic solvent naphtha (petroleum)

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Fail

Biodegradation: 61 %

Exposure time: 28 d

Method: OECD Test Guideline 301F

Theoretical Oxygen Demand: 3.49 mg/mg

Isopropanol

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

10-day Window: Pass

Biodegradation: 95 %

Exposure time: 21 d

Method: OECD Test Guideline 301E or Equivalent

10-day Window: Not applicable

Biodegradation: 53 %

Exposure time: 5 d

Method: Other guidelines

Theoretical Oxygen Demand: 2.40 mg/mg Estimated.

Chemical Oxygen Demand: 2.09 mg/mg Estimated.

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	20 – 72%
20 d	78 – 86%



Photodegradation

Test Type Half-life (indirect photolysis)
Sensitization: OH radicals
Atmospheric half-life 1.472 d
Method Estimated.

Methanol

Biodegradability: Material is readily biodegradable. Passes OECD test(s) for ready biodegradability.

Theoretical Oxygen Demand: 1.50 mg/mg

Chemical Oxygen Demand: 1.49 mg/mg Dichromate

Biological oxygen demand (BOD)

Incubation Time	BOD
5 d	72%
20 d	79%

Photodegradation

Test Type Half-life (indirect photolysis)
Sensitization OH radicals
Atmospheric half-life 8 - 18 d
Method Estimated

Bioaccumulative Potential

Dimethyl siloxane, 3-(2-aminoethyl)aminopropyldimethoxysiloxy-terminated

Bioaccumulation: No relevant data found.

Medium aliphatic solvent naphtha (petroleum)

Bioaccumulation: Bioconcentration potential is high (BCF > 3000 or Log Pow between 5 and 7).

Partition coefficient: n-octanol/water(log Pow): 3.3 - 6 Estimated.

Bioconcentration factor (BCF): 39.66

Isopropanol

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): 0.05 Measured

Methanol

Bioaccumulation: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow): -0.77 Measured

Bioconcentration factor (BCF): < 10 Leuciscus idus (Golden orfe) Measured

Oligomers of aminoalkylmethoxysilanes

Bioaccumulation

For similar material(s): Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

Partition coefficient: n-octanol/water(log Pow)

< 3 estimated

Mobility in soil

Dimethyl siloxane, 3-(2-aminoethyl)aminopropyldimethoxysiloxy-terminated

No relevant data found.



Medium aliphatic solvent naphtha (petroleum)

Potential for mobility in soil is low (Koc between 500 and 2000).

Partition coefficient (Koc): 1451

Isopropanol

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 1.1 Estimated.

Methanol

Potential for mobility in soil is very high (Koc between 0 and 50).

Partition coefficient (Koc): 0.44 Estimated.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods: DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL. THE INFORMATION PRESENTED HERE PERTAINS ONLY TO THE PRODUCT AS SHIPPED IN ITS INTENDED CONDITION AS DESCRIBED IN MSDS SECTION: Composition Information. FOR UNUSED & UNCONTAMINATED PRODUCT, the preferred options include sending to a licensed, permitted: Incinerator or other thermal destruction device. For additional information, refer to: Handling & Storage Information, MSDS Section 7 Stability & Reactivity Information, MSDS Section 10 Regulatory Information, MSDS Section 15

Treatment and disposal methods of used packaging: Empty containers should be recycled or otherwise disposed of by an approved waste management facility. Waste characterizations and compliance with applicable laws are the responsibility solely of the waste generator. Do not re-use containers for any purpose.

SECTION 14: TRANSPORT INFORMATION

US DOT

Propper shipping name	Flammable liquids, n.o.s. (Propan-2-ol, Methanol)
UN number	UN 1993
Class	3
Packing group	II

Classification for SEA transport (IMO-IMDG)

Proper shipping name	FLAMMABLE LIQUID,N.O.S.(Propan-2-ol, Methanol)
UN number	UN 1993
Class	3
Packing group	II
Marine pollutant	Medium aliphatic solvent naphtha (petroleum)
Transport in bulk according to Annex I or II	Consult IMO regulations before transporting ocean bulk



**of MARPOL 73/78 and the
IBC or IGC Code**

**Classification for AIR transport
(IATA/ICAO)**

Proper shipping name	Flammable liquid, n.o.s.(Propan-2-ol, Methanol)
UN number	UN 1993
Class	3
Packing group	II

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

SECTION 15: REGULATORY INFORMATION

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Sections 311 and 312

- Flammable (gases, aerosols, liquids, or solids)
- Hazard not otherwise classified (physical hazards)
- Skin corrosion or irritation
- Serious eye damage or eye irritation
- Specific target organ toxicity (single or repeated exposure)

Superfund Amendments and Reauthorization Act of 1986 Title III (Emergency Planning and Community Right-to-Know Act of 1986) Section 313

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

Components	CASRN
Isopropanol	67-63-0
Methanol	67-56-1

Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) Section 103

Calculated RQ exceeds reasonably attainable upper limit

Components	CASRN	RQ (RCRA Code)
Methanol	67-56-1	5000 lbs RQ
Methanol	67-56-1	100 lbs RQ (F003)
Methanol	67-56-1	5000 lbs RQ
Methanol	67-56-1	100 lbs RQ (F003)



Pennsylvania Right to Know

The following chemicals are listed because of the additional requirements of Pennsylvania law:

Dimethyl siloxane, 3-(2- aminoethyl) aminopropyldimethoxysiloxy-terminated	71750-80-6
Medium aliph solvent naphtha (petroleum),	64742-88-7
Isopropanol	67-63-0
Methanol	67-56-1

California Prop 65

WARNING – This product contains a chemical know in the State of California to cause \ birth defects or other reproductive harm. Methanol, 67-56-1

United States TSCA Inventory (TSCA)

All components of this product are in compliance with the inventory listing requirements of the U.S. Toxic Substances Control Act (TSCA) Chemical Substance Inventory.

RoHs Directive (Restriction of the use of Certain Hazardous Substances)

To the best of our knowledge, the restricted substances prohibited in accordance with Directive 2011/65/EU and Directive 2015/863/EU are not normally expected to be present at or above the specified concentrations of 0.01% (by weight) for lead, mercury, hexavalent chromium, PBB, PBDE, (including decaBDE, PentaBDE, or OctaBDE), Phtalates (including DEHP, BBP, DBP and DIBP) and 0.01% (by weight) for cadmium.

REACH – Substances of Very High Concern

- Octamethylcyclotetrasiloxane (CAS 556-67-2)
- Decamethylcyclopentasiloxane (CAS 541-02-6)
- Dodecamethylcyclohexasiloxane (CAS 540-97-6)

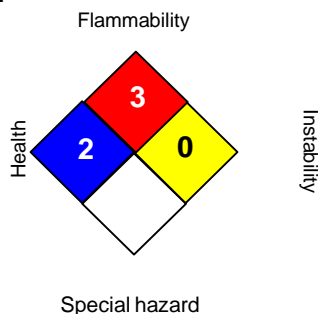
The above listed substances may be present in silicone-based products as unavoidable impurities of the basic silicone polymer synthesis steps currently used in the industry.

EU Medical Devices Regulation (MDR (EU) 2017/745)

This product is not made with, nor does it generate carcinogenic, mutagenic or toxic to reproduction ('CMR'), of category 1A or 1B, or substances having endocrine-disrupting properties as defined in paragraph 10.4.1 of MDR (EU) 2017/745.

SECTION 16: OTHER INFORMATION

NFPA:



HMIS III:

HEALTH	3*
FLAMMABILITY	3
PHYSICAL HAZARD	0

0 = not significant, 1 = Slight, 2 = Moderate, 3 = High 4 = Extreme, * = Chronic

Legend

- ACGIH USA. ACGIH Threshold Limit Values
- ACGIH BEI ACGIH-Biological Exposure Indices (BEI)
- OSHA Z-1 USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
- SKIN Absorbed via skin limit
- STEL Short-term exposure limit
- OSHA Z-1 / TWA 8-hour time weighted average

Full text of other abbreviations

AICS – Australian Inventory of Chemical Substances; ASTM – American Society for the Testing of Materials; bw – Body Weight; CERCLA – Comprehensive Environmental Response, Compensation, and Liability Act; CMR – Carcinogen, Mutagen or Reproductive Toxicant; DIN – Standard of the German Institute for Standardization; DOT – Department of Transportation; DSL – Domestic Substances List (Canada); ECx – Concentration associated with x% response; EHS – Extremely Hazardous Substance; ELx – Loading rate associated with x% response; EmS – Emergency Schedule; ENCS – Existing and New Chemical Substances (Japan); - ErCx – Concentration associated with x% growth rate response; ERG – Emergency Response Guide; GHS – Globally Harmonized System; GLP – Good Laboratory Practice; HMIS – Hazardous Materials Identification System; IARC – International Agency for Research on Cancer; IATA – International Air Transport Association; IBC – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 – Half maximal inhibitory concentration; ICAO – International Civil Aviation Organization; IECSC – Inventory of Existing Chemical Substances in China; IMDG – International Maritime Dangerous Goods; IMO – International Maritime Organization; ISHL – Industrial Safety and Health Law (Japan); ISO – International Organization for Standardization; KECI – Korea Existing Chemicals Inventory; LC50 – Lethal Concentration to 50% of a test population; LD50 – Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL – International Convention for the Prevention of Pollution from Ships; MSHA – Mine Safety and Health Administration; n.o.s. – Not Otherwise Specified; NFPA – National Fire Protection Associations; NO(A)EC – No Observed (Adverse) Effect Concentration; NO(A)EL – No Observed (Adverse) Effect Level; NOELR – No Observable



Effect Loading Rate; NTP – National Toxicology Program; NZIoC – New Zealand Inventory of Chemicals; OECD – Organization for Economic Co-operation and Development; OPPTS – Office of Chemical Safety and Pollution Prevention; PBT – Persistent, Bioaccumulative and Toxic substance; PICCS – Philippines Inventory of Chemicals and Chemical Substances; (Q) SAR – (Quantitative) Structure Activity Relationship; RCRA – Resource Conservation and Recovery Act; REACH – Regulation (EC) No 1907/2006 of the European Parliament and of the Council Concerning the Registration, Evaluation, Authorization and Restriction of Chemicals; RQ – Reportable Quantity; SADT – Self-Accelerating Decomposition Temperature; SARA – Superfund Amendments and Reauthorization Act; SDS – Safety Data Sheet; TCSI – Taiwan Chemical Substance Inventory; TSCA – Toxic Substance Control Act (United States); UN – United Nations; UNRTDG – United Nations Recommendations on the Transport of Dangerous Goods; vPvB – Very Persistent and Very Bioaccumulative.

Factor II, Inc. Disclaimer & Statement of Liability

This is to certify that the above designated material has been tested and did comply with the listed specifications (with listed exceptions) when supplied in original container. The material is subject to the conditions listed on the invoice. The above is a copy of information on file. The lot acceptance data are available for examination. This is a computer-generated document that is valid without a signature. The information above is supplied in good faith and, to the best of our knowledge, is based on available sources believed to be reliable and accurate. This document and any information provided herein are for your guidance only. The use by the requestor is beyond Factor II control; therefore, the responsibility for appropriate and safe use of the above information lies with the End user. Factor II shall not be responsible for any misuse and/or misapplication of the information in this document.

Factor II, Inc. urges each customer or recipient of this SDS to study it carefully to become aware of and understand the hazards associated with the product. The reader should consider consulting reference works or individuals who are experts in ventilation, toxicology and/or fire prevention as necessary or appropriate to the use and understanding of the data contained in this SDS. To promote safe handling each customer or recipient should 1) notify and furnish its employees, agents, contractors, customers and/or others whom it knows or believes will use this material of the information regarding hazards or safety, and 2) request its customers to notify their employees, customers, and other users of the product of this information.



Factor II, Incorporated

The Art, Science and Technology of
Silicones and Prosthetics...

Safety Data Sheet

A-104

Date of Issue: 12/15/2010

Revision Date: 2/12/2018

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