Factor II Inc. encourages the end user to read this document entirely and understand all sections of this SDS sheet prior to use. There is important information regarding this product. The end user is expected to follow all precautions outlined in this SDS.

SECTION 1: IDENTIFICATION

PRODUCT IDENTIFIER

Product Name : Medical Grade Dispersion

Product Code : A-104

Intended Use(s) : Lubricants and lubricant additives Intermediate

CONTACT INFORMATION FOR SUPPLIER OF SAFETY DATA SHEET

Factor II, Incorporated
5642 White Mountain Ave
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EMERGENCY TELEPHONE NUMBERS

928- 368-7502

SECTION 2: HAZARD(S) IDENTIFICATION

Hazard classifications
GHS classification
Flammable liquids - Category 2
Skin irritation – Category 2
Eye irritation – Category 2A
Reproductive toxicity – Category 2
Specific target organ toxicity – single exposure – Category 3
Specific target organ toxicity – repeated exposure – Category 1 (Central nervous system)

Label elements
Hazard Pictogram(s)

Single Word: **DANGER!**

Hazard Statements:

H225 Highly flammable liquid and vapor.
H315 Causes skin irritation
H319 Causes serious eye irritation
H336 May cause drowsiness or dizziness
H361 Suspected of damaging fertility or the unborn child.
H372 Causes damage to organs (Central nervous system) through prolonged or repeated exposure.

Precautionary statement(s):

Prevention:

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 mist or vapors.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P303 + P361 + P353 IF ON SKIN (or hair) Take off immediately all contaminated clothing.
Rinse skin with water/shower.
P304 + P340 + P312 IF INHALED Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
P305 + P351 + P338 IF IN EYES Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313 IF exposed or concerned Get medical advice/ attention.
P332 + P313 If skin irritation occurs Get medical advice/ attention.
P337 + P313 If eye irritation occurs Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

Storage

P403 + P235 Store in a well-ventilated place. Keep cool.
P405 Store locked up.

Disposal

P501 Dispose of contents/container to an approved waste disposal plant.

Other hazard(s)

Static-accumulating flammable liquid.

Vapors may form explosive mixture with air.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Substance/Mixture Mixture

Chemical nature Aminofunctional Siloxane

Hazardous Ingredients

Chemical Name	CAS-No.	Concentration (%)
Dimethyl siloxane, 3-(2-aminoethyl)aminopropyldimethoxysiloxy-terminated	71750-80-6	>=30 - <50
Solvent naphta (petroleum), medium aliph.	64742-88-7	<=30 - <50
Stoddard solvent	8052-41-3	<=30 - <50
Propan-2-ol	67-63-0	>=10 - <20
1,2,4-Trimethylbenzene	95-63-6	>=1 - <5
Methanol	67-56-1	>=0.1 - <1
Oligomers of aminoalkylmethoxysilanes	Not assigned	>=0.1 - <1
Octamethylcyclotetrasiloxane	556-67-2	>=0.1 - <1

SECTION 4: FIRST-AID MEASURES

General advice
In the case of accident or if you feel unwell, seek medical advice immediately. When Symptoms persist or in all cases of doubt seek medical advice.

If inhaled
If inhaled, remove to fresh air. Get medical attention if symptoms occur.

In case of skin contact
In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

In case of eye contact
In case of contact, immediately flush skin with plenty of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention.

If swallowed
If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse moth thoroughly with water.

Most important symptoms and effects, both acute and delayed

Causes skin irritation. Causes serious eye irritation. May cause drowsiness or dizziness. Suspected of damaging fertility or the unborn child. Causes damage to organs through prolonged or repeated exposure.

Protection of first-aiders
First aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists.

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 during fire fighting
Do not use a solid water stream as it may scatter and spread fire. Flash back possible over considerable distance. Vapors may form explosive mixtures with air. Exposure to combustion products may be a hazard to health.

Hazardous combustion products
Carbon oxides
Silicon oxides
Nitrogen oxides (Nox)
Formaldehyde

Specific extinguishing methods
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray to cool unopened containers. Remove undamaged containers from fire area if it is safe to do so. Evacuate area.

Special protective equipment for fire-fighters
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:
Discharge into the environment must be avoided.
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 contaminate 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/vapors/mists with a water spray jet.
For large spills, provide diking or other appropriate containment to keep material from spreading. If diked material can be pumped, store recovered material in appropriate container. 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 cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

SECTION 7: HANDLING AND STORAGE

Technical measures
Ensures 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.

Local/Total ventilation
Use with local exhaust ventilation.
Use only in an area equipped with explosion proof exhaust ventilation.

Advice on safe handling
Do not get on skin or clothing.
Do not breathe vapors or spray mist.
Do not swallow.
Do not get in eyes.
Handle in accordance with good industrial hygiene and safety practice.
Non-sparking tools should be used.
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.

Conditions for safe storage
Keep in properly labeled 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.

Material to avoid
Do not store with the following product types
Strong oxidizing agents Organic peroxides
Organic peroxides
Flammable solids
Pyrophoric liquids
Pyrophoric solids
Self-heating substances and mixtures
Substances and mixtures which in contact with water emil
Flammable gasses
Explosives
Gases

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

Ingredients with workplace control parameters

Ingredients	CAS-No.	Value type (Form of exposure	Control parameters/Permissible concentration	Basis
Stoddard solvent	8052-41-3	TWA	100 ppm	ACGIH
		TWA	350 mg/m3	NIOSH REL
		C	1,800 mg/m3	NIOSH REL
		TWA	5,00 ppm 2,900mg/m3	OSHA Z-1
Propan-2-ol	67-63-0	TWA	200 ppm	ACGIH
		STEL	400 ppm	ACGIH
		TWA	400 ppm 980mg/m3	NIOSH REL
		ST	500 ppm 1,225 mg/m3	
		TWA	400 ppm 980 mg/m3	OSHA Z-1
1,2,4-Tremethylbenzene	95-63-6	TWA	25 ppm 125 mg/m3	NIOSH REL
Methanol	67-56-1	TWA	200 ppm	ACGIH
		STEL	250 ppm	ACGIH

		TWA	200 ppm 260mg/m3	NIOSH REL
		ST	250 ppm 325 mg/m3	NIOSH REL
		TWA	200 ppm 260 mg/m3	OSHA Z-1
Octamethylcyclotetrasiloxane	556-67-2	TWA	10 ppm	

Hazardous components without workplace control parameters

Ingredients	CAS-No.
Dimethyl siloxane 3-(2-aminoethyl)aminopropyldimethoxysiloxy-terminated	71750-80-6
Solvent naphtha (petroleum), medium aliph.	64742-88-7
Oligomers of aminoalkylmethoxysilanes	Not Assigned

Biological occupational exposure limits

Ingredients	CAS-No.	Control parameters	Biological specimen	Sam-pling time	Permissible concentration	Basis
Propan-2-ol	67-63-0	Acetone	Urine	End of shift at end of work-week	40mg/l	ACGIH BEI
Methanol	67-56-1	Methanol	Urine	End of shift (As soon as possible after exposure ceases)	15mg/l	ACGIH BEI

Engineering measures

Processing may form hazardous compounds (see section 10).
Minimize workplace exposure concentrations.
Use only in an area equipped with explosion proof exhaust ventilation.
Use with local exhaust ventilation.

Personal protective equipment

Respiratory protection: General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are unknown, appropriate respirator protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA

	approved respirators. Protection provided by air purifying resperators against exposure to any hazardous chemical is limited. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.
Hand protection Material:	Antistatic gloves
Material:	Impervious gloves
Material:	Flame retardant gloves
Remarks	Choose gloves to protect hands against chemicals depending on the concentration specific to place of work. Breakthrough time is not determined for the product. Change gloves often! For special applications, we recommend clarifying the resistance to chemicals of the aforementioned protective gloves with the glove manufacturer. Wash hands before breaks and at the end of workday.
Eye protection	Wear the following personal protective equipment: Safety goggles
Skin and body protection	Select appropriate protective clothing based on chemical resistance data and an assessment of the local exposure potential. Wear the following personal protective equipment : Flame retardant antistatic protective clothing. Skin contact must be avoided by using impervious protective clothing (gloves, aprons, boots, etc).
Hygiene measures	Ensure that eye flushing systems and safety showeres are located close to the working place. When using do not eat, drink or smoke. Wash contaminated clothing before re-use. These precautions are for room temperature handling. Use at elevated temperature or aerosol/spray applications may require added precautions. For further information regarding the use of silicones / organic oils in consumer aerosol applications, please refer to the guidance document regarding the use of these type of materials in consumer aerosol applications that has been developed by the silicone industry (www.SEHSC.com).

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Appearance	Liquid
Color	Straw
Odor	Solvent
Odor Threshold	No data available
pH	No data available
Melting point/freezing point	No data available
Initial boiling point and boiling range	>82.00°C
Flash point	13.3°C Method Pensky-Martens closed cup
Evaporation rate	No data available
Flammability (solid, gas)	No data available
Upper explosion limit	No data available
Lower explosion limit	No data available
Vapor pressure	No data available
Relative vapor density	No data available
Relative density	0.865
Solubility(ies)	No data available
Partition coefficient n-octanol/water	No data available
Autoignition temperature	No data available
Decomposition temperature	No data available
Viscosity	
Viscosity, kinematic	16 cSt
Explosive properties	Not explosive

Oxidizing properties	The substance or mixture is not classified as oxidizing.
Molecular weight	No data available

SECTION 10: STABILITY AND REACTIVITY

Reactivity	Not classified as a reactivity hazard.
Chemical stability	Stable under normal conditions.
Possibility of hazardous reactions	Highly flammable liquid and vapor. Vapors may form explosive mixture with air. Use at elevated temperatures may form highly hazardous compounds. Can react with strong oxidizing agents. Hazardous decomposition products will be formed at elevated temperatures.
Conditions to avoid	Handling operations that can promote accumulation of static charges.

SECTION 11: TOXICOLOGICAL INFORMATION

Information on likely routes of exposure
Inhalation
Skin contact
Ingestion
Eye contact

Acute toxicity
Not classified based on available information.

Product:

Acute oral toxicity	Acute toxicity estimate > 5,000mg/kg Method Calculation method
Acute inhalation toxicity	Acute toxicity estimate > 400mg/l Exposure time 4h Test atmosphere vapor Method Calculation method
Acute dermal toxicity	Acute toxicity estimate >5,000 mg/kg Method Calculation method

Ingredients:

Solvent naphtha (petroleum), medium aliph.:

Acute oral toxicity	LD50 (Rat) >5,000 mg/kg Method OECD Test Guedeline420
Acute inhalation toxicity	LC50 (Rat) >5.28 mg/l Exposure time 4h Test atmosphere vapor Method OECD Test Guideline 403 Assessment the substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	LD50 (Rabbit) >2,000mg/kg Method OECD Test Guideline 402 Assessment the substance or mixture has no acute dermal toxicity

Stoddard solvent:

Acute oral toxicity	LD50 (Rat) >5.000 mg/kg
Acute inhalation toxicity	LC50 (Rat) >5.5mg/l, >934ppm Exposure time 4h Test Atmosphere vapor Assessment the substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	LD50 >5,000mg/kg

Propan-2-ol:

Acute oral toxicity	LD50 (Rat) >5,000mg/kg
Acute inhalation toxicity	LD50 (Rat)>72.6 mg/kg Exposure time 4 h Test atmosphere vapor Remarks based on data from similar materials
Acute dermal toxicity	LD50 (Rat) >3,160mg/kg Assessment the substance or mixture has no acute dermal toxicity

Methanal:

Acute oral toxicity	Acute toxicity estimate (Humans) 300 mg/l Test atmosphere vapor Method Expert judgment
Acute dermal toxicity	Acute toxicity estimate (Humans) 3 mg/l Test atmosphere vapor

	Method Expert judgment

Octamethylcyclotetrasiloxane:

Acute oral toxicity	LD50 (Rat) >4,800 mg/kg Assessment the substance or mixture has no acute oral toxicity remarks based on test data
Acute inhalation toxicity	LC50 (Rat) 2975 ppm Exposure time 4 h Test atmosphere vapor Assessment the substance or mixture has no acute inhalation toxicity Remarks Based on test data
Acute dermal toxicity	LD50 (Rabbit) > 2.5 ml/kg Assessment the substance or mixture has no acute dermal toxicity Remarks based on test data
Skin corrosion/irritation	Causes skin irritation.

Ingredients :

Dimethylsiloxane, 3-(2-aminoethyl)aminopropyldimethoxyslioxy-terminated :
Result Irritation to eyes, reversing within 21 days
Remarks based on data from similar materials

Solvent naphtha (petroleum), medium aliph.:
Species Rabbit
Result No eye irritation

Stoddard solvent:
Species Rabbit
Result No eye irritation

Propan-2-ol:
Species Rabbit
Result Irritation to eyes, reversing within 21 days

1,2,4-Trimethylbenzene:
Result Irritation to eyes, reversing within 21 days

Methanol:
Species Rabbit
Result No eye irritation

Oligomers ofaminoalkylmethoxysilanes:
Species Rabbit
Result Irreversible effects on the eye

Remarks Based on test data

Octamethylcyclotetrasiloxane:
Species Rabbit
Result No eye irritation
Remarks Based on test data

Respiratory or skin sensitization
Skin sensitization Not classified based on available information.
Respiratory sensitization Not classified based on available information.

Product:
Assessment Does not cause skin sensitization.

Test Type Maximization Test (GPMT)
Species Guinea pig
Remarks based on test data

Ingredients:
Solvent naphtha (petroleum), medium aliph.:
Test Type Buehler Test
Routes of exposure Skin contact
Species Guinea pig
Method OECD Test Guideline 406
Result negative

Stoddard solvent:
Routes of exposure Skin contact
Species Guinea pig
Result negative

Propan-2-ol
Test Type Buehler Test
Routes of exposure Skin contact
Species Guinea pig
Method OECD Test Guideline 406
Result negative

1,2,4-Trimethylbenzene:
Test Type Maximization Test (GPMT)
Routes of exposure Skin contact
Species Guinea pig
Method OECD Test Guideline 406
Result negative

Methanol:
Test Type Maximization Test (GPMT)
Routes of exposure Skin contact

Species Guinea pig
Result negative

Oligomers ofaminoalkylmethoxysilanes:
Assessment does not cause skin sensitization in humans

Test Type Maximization Test (GPMT)
Species Guinea pig
Remarks Causes sensitization.
Information taken from reference works and the literature.

Octamethylcyclotetrasiloxane:
Assessment Does not cause skin sensitization.

Test Type Maximization Test (GPMT)
Species Guinea pig
Remarks Based on test data

Germ cell mutagenicity
Not classified based on available information.

Product:

Genotoxicity in vitro	Test Type Bacterial reverse mutation assay (AMES) Result negative Remarks Based on test data

Ingredients:

Solvent naphtha (petroleum), medium aliph.:

Genotoxicity in vitro	Test Type In vitro mammalian cell gene mutation test Result negative
Genotoxicity in vivo	Test Type Rodent dominant lethal test (germ cell) (in vivo) Species Mouse Application Route Intraperitoneal injection Method OECD Test Guideline478 Result negative Remarks Based on data from similar materials

Stoddard solvent:

Genotoxicity in vitro	Test Type in vitro mammalian cell gene mutation test Result negative Remarks based on data from similar materials
Genotoxicity in vivo	Test Type Rodent dominant lethal test (germ cell) (in vivo) Species Mouse Application Route Intraperitoneal injection Result negative Remarks based on data from similar materials

Propan-2-ol:

Genotoxicity in vitro	Test Type Bacterial reverse mutation assay (AMES) Result negative
Genotoxicity in vivo	Test Tupe Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species Mouse Application Route Intraperitoneal injection Result negative

1,2,4-Trimethylbenzene:

Genotoxicity in vitro	Test Type Bacterial reverse mutation assay (AMES) Method OECD Test Guideline 471
Genotoxicity in vivo	Test Type Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species Mouse Application Route Intraperitoneal injection Method OECD Test Guideline474 Result negative

Methanol:

Genotoxicity in vitro	Test Type Bacterial reverse mutation assay (AMES) Method OECD Test Guideline 471\ Result negative Test type in vitro mammalian cell gene mutation test Method OECD Test Guideline 476 Result negative
Genotoxicity in vivo	Test Type Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species Mouse Application Route Intraperitoneal ingection Result negative

Octamethylcyclotetrasiloxane:

Genotoxicity in vitro	Test Type Bacterial reverse mutation assay (AMES) Result negative Remarks based on test data Test Type Mutagenicity (in vitro mammalian cytogenetic test) Result negative Remarks Based on test data Test Type Chromosome aberration test in vitro Result negative

	Remarks Based on test data Test Type in vitro sister chromatid exchange assay in mammalian cells Result negative Remarks Based on test data Test Type DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro) Result negative Remarks Based on test data
Genotoxicity in vivo	Test Type Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species Rat Application Route inhalation (vapor) Result negative Remarks Based on test data Test Type Rodent dominant lethal test (germ cell) (in vivo) Species Rat Application Route Ingestion Result negative Remarks Based on test data
Germ cell mutagenicity-Assessment	Animal testing did not show any mutagenic effects.

Carcinogenicity
Not classified based on available information.

Ingredients:
Solvent naphtha (petroleum), medium aliph.:
Species Mouse
Application Route Skin contact
Exposure time 62 weeks
Method OECD Test Guideline 451
Result negative
Remarks Based on data from similar materials

Propan-2-ol:
Species Rat
Application Route inhalation (vapor)
Exposure time 104 weeks
Method OECD Test Guideline 451
Result negative

Methanol:
Species Mouse
Application Route inhalation (vapor)
Exposure time 18 Months
Method OECD Test Guideline 453
Result negative

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.
OSHA	No ingredient of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
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.

Reproductive toxicity
Suspected of damaging fertility or the unborn child.

Ingredients:
Solvent naphtha (petroleum), medium aliph.:

Effects on fertility	Test Type One-generation reproduction toxicity study Species Rat Application Route Ingestion Result negative
Effects on fetal development	Test Embryo-fetal development Species Rat Application Route Ingestion Method OECD Test Guideline 414 Result negative

Propan-2-ol

Effects on fertility	Test type Two-generation reproduction toxicity study Species Rat Application Route Ingestion Result negative
Effects on fetal development	Test Type Embryo-fetal development Species Rat Application Route Ingestion Result negative

1,2,4-Trimethylbenzene:	Test Type Three-generation reproduction toxicity stucy

	Species Rat Application Route inhalation (vapor) Method OECD Test Guideline 416 Result negative
Effects on fetal development	Test Type Embryo-fetal development Species Rat Application Route inhalation (vapor) Method OECD Test Guideline 414 Result negative

Methanol:

Effects on fertility	Test Type Fertility/early embryonic development Species Mouse Application Route Ingestion Result negative
Effects on fetal development	Test Type Embryo-fetal development Species Mouse Application Route Ingestion Method OECD Test Guideline 414 Result positive Remarks the effects were seen only at maternally toxic doses.

Octamethylcyclotetrasiloxane:

Effects on fertility	Test Type Two-generation reproduction toxicity study Species Rat, male and female Application Route inhalation (vapor) Symptoms Effects on fertility. Remarks based on test data
Effects on fetal development	Test Type Prenatal development toxicity study (teratogenicity) Species Rabbit Application Route inhalation (vapor) Symptoms No effects on fetal development. Remarks Based on test data
Reproductive toxicity – Assessment	Some evidence of adverse effects on sexual function and fertility, based on animal experiments.
STOT-single exposure	May cause drowsiness or dizziness.

Ingredients:

Solvent naphtha (petroleum), medium aliph.:
Assessment May cause drowsiness or dizziness.

Stoddard solvent:
Assessment May cause drowsiness or dizziness.

Propan-2-ol:
Assessment May cause drowsiness or dizziness.

1,2,4-Trimethylbenzene:
Assessment may cause respiratory irritation.

Methanol:
Target Organs Eyes, Central nervous system
Assessment causes damage to organs.

STOT-repeated exposure
Causes damage to organs (Central nervous system) through prolonged or repeated exposure.

Ingredients:
Solvent naphtha (petroleum), medium aliph.:
Species Rat
NOAEL 2.34 mg/l
LOAEL 4.67
Application Route ingalation (vapor)
Exposure time 6 m
Remarks based on data from similar materials

Stoddard solvent:
Species Rat
NOEL 2.34 mg/l
LOAEL 4.67 mg/l
Application Route inhalation (vapor)
Exposure time 6 m

Propan-2-ol
Species Rat
NOAEL 5000ppm
Application Route inhalation (vapor)
Exposure time 104 w
Method OECD Test Guideline 413

1,2,4-Trimethylbenzene:
Species Rat
NOAEL 600mg/kg
Application Route Ingestion
Exposure time 90 d

Species Rat
NOAEL 1800mg/m3
Application Route inhalation (vapor)

Exposure time 12m

Methanol:
Species Rat
NOAEL 1.06 mg/l
Application Route inhalation (vapor)
Exposure time 90 d

Octamethylcyclotestrasiloxane:
Species Rat
Application Route Ingestion
Remarks Based on test data

Species Rat
Application Route inhalation (vapor)
Remarks Based on test data

Species Rat
Application Route inhalation (vapor)
Remark Based on test data

Species Rabbit
Application Route Skin contact
Remarks Based on test data

Aspiration toxicity
Not classified based on available information.

Ingredients:
Solvent naphtha (petroleum), medium apliph.:
The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Stoddard solvent:
The substance or mixture is known to cause human aspiration toxicity hazards or has to be regarded as if it causes a human aspiration toxicity hazard.

Experience with human exposure

Ingredients:
Solvent naphtha (petroleum), medium aliph.:

Inhalation	Target Organs Central nervous system Symptoms Dizziness, Headache, Neurological disorders

Stoddard solvent:

Inhalation	Target Organs Central nervous system Symptoms Dizziness, Headache, Neurological disorders

Further information

Ingredients:
Octamethylcyclotrasiloxane:
Remarks Results from a 2 year repeated vapor ingalation exposure study to rats of octamethylcyclotetrasiloxane (D4) indicate effects (binign uterine adenomas) in the uterus of a female animals. This finding occurred at the highest exposure dose (700ppm) only. Studies to date have not demonstrated if these effects occur through pathways that are relevant to humans. Based on the available information on its potential to cause harm to human health, Health Canada, in a 2008 screening assessment, has concluded that octamethylcyclotetrasiloxane is not entering the environment in a quantity or concentration or under conditions that constitute or may constitute a danger in Canada to human life or health (http//www.ec.gc.ca/eseees/default.asp?lang=En&n=2481B508-1). Repeated exposure in rats to D4 resulted in protoporphyrin accumulation in the liver. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity

Ingredients:
Solvent naphtha (petroleum), medium aliph.:

Toxicity to algae	EC50 (Selenastrum capricornutum (green algae)) 4,700 mg/l Exposure time 72 h

Stoddard solvent:

Toxicity to daphnia and other Aquatic invertabrates	EC50 (Daphnia magna (Water flea)) 1.4 mg/l Exposure time 48 h Test substance Water Accommodated Fraction
Toxicity to algae	EC50 (Pseudokirchneriella subcapitata (green algae)) 1.2 mg/l Exposure time 72 h
Toxicity to daphnia and other Aquatic invertebrates (Chronic Toxicity)	NOELR (Daphnia magna (Water flea)) 0.097 mg/l Exposure time 21 d Method OECD Test Guideline211 Remarks based on data from similar materials

Propan-2-ol:

Toxicity to fish	LC50 (Pimephales promelas (fathead minnow)) 10,000 mg/l Exposure time 96 h
Toxicity to daphnia and other	

Aquatic vertebrates	EC50 (Daphnia magna (Water flea)) >10,000 mg/l Exposure time 24 h
Toxicity to bacteria	EC50 (Pseudomonas putida) >1,050 mg/l Exposure time 16 h

1,2,4-Trimethylbenzene:

Toxicity to fish	LC50 (Pimephales promelas (fathead minno)) 7.72mg/l Exposure time 96 h
Toxicity to daphnia and other Aquatic invertebrates	EC50 (Daphnia magna (Water flea)) 3.6 mg/l Exposure time 48 h
Toxicity to algae	EC50 (Desmodesmus subspicatus (green algae)) 2.356 mg/l Exposure time 96 h
Ecotoxicology Assessment Chronic aquatic toxicity	Toxic to aquatic life with long lasting effects.

Methanol:

Toxicity to fish	LC50 (Lepomis macrochirus (Bluegill sunfish)) 15,400 mg/l Exposure time 96 h
Toxicity to daphnia and other Aquatic invertebrates	EC50 (Daphnia magna (Water flea)) > 10,000 mg/l Exposure time 48 h
Toxicity to algae	EC50 (Pseudokirchneriella subcapitata (green algae)) 22,000 mg/l Exposure time 96 h Method OPPTS 850.5400
Toxicity to fish (Chronic toxicity)	NOEC (Oryzias latipes (Orange-red killifish)) 15,800 mg/l Exposure time 200 h
Toxicity to bacteria	EC50 20,000 mg/l Exposure time 15 h

Oligomers ofaminoalkylmethoxysilanes:

Toxicity to fish	LC50 (Danio rerio (zebra fish)) 597 mg/l Exposure time 96 h Remarks based on data from similar materials
Toxicity to daphnia and other Aquatic invertebrates	EC50 (Daphnia sp.) 37mg/l Exposure time 8 h Remarks based on data from similar materials

Toxicity to algae	ErC50 (Pseudokirchneriella subcapitata (green Algae)) 8.8 mg/l Exposure time 72 h Remarks Base don data from similar materials NOEC (Pseudokirchneriella subcapitata (green algae)) 3.1 m/l Exposure time 72 h Remarks base don data from similar materials
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	NOEC (Daphnia sp.) > 1mg/l Exposure time 21 d Remarks based on data from similar materials

Octamethylcyclotetrasiloxane:

Toxicity to Fish	LC50 (Oncorhynchus mykiss (rainbow trout)) > 0.022 mg/l Exposure time 96 h Remarks No toxicity at the limit of solubility.
Toxicity to daphnia and other Aquatic invertebrates	EC50 (Daphnia sp.) > 0.015 mg/l Exposure time 48 h Remarks No toxicity at the limit of solubility.
Toxicity to algae	EC50 < 0.022 mg/l Exposure time 96 h Remarks No toxicity at the limit of solubility. NOEC 0.022 mg/l Exposure time 96 h Remarks no toxicity at the limit of solubility.
Toxicity to fish (Chronic toxicity)	NOEC (Oncorhynchus mykiss (rainbow trout)) >= 0.0044 mg/l Remarks no toxicity at the limit of solubility.
Toxicity to daphnia and other Aquatic invertebrates (Chronic toxicity)	NOEC (Daphnia magna (Water Flea)) > 0.0079 mg/l Exposure time 21 d Remarks No toxicity at the limit of solubility.
Toxicity to bacteria	IC50 >10,000 mg/l Method ISO 8192

Ecotoxicoloty Assessment

Chronic aquatic toxicity	May cause long lasting harmful effects to aquatic life.

Persistence and degradability

Ingredients:

Solvent naphtha (petroleum), medium aliph.:

Biodegradability	Result not readily biodegradable. Biodegradation 58.6% Exposure time 28 d Method OECD Test Guideline 301F

Stoddard solvent:

Biodegradability	Result readily biodegradable. Biodegradation 75% Exposure time 28 d

Propan-2-ol

Biodegradability	Result rapidly degradable

1,2,4-Trimethylbenzene:	Result rapidly degradable Biodegradation 100% Exposure time 1 d

Methanol:

Biodegradability	Result Readily biodegradable. Biodegradation 95% Exposure time 20 d

Oligomers ofaminoalkylmethoxysilanes:

Biodegradability	Result Not readily biodegradable.

Octamethylcyclotetrasiloxane:

Biodegradabiltiy	Result not readily biodegradable. Biodegradation 3.7% Exposure time 28 d Method OECD Test Guideline 310
Stability in water	Degradation half life 69.3 – 144 h (24.6°C) pH 7 Method OECD Test Guideline111

Bioaccumulative potential

Ingredients:

Stoddard solvent:

Partition coefficient n-octanol/water	low Pow > 4 Remarks Expert judgment

Propan-2-ol

Partition coefficient n-octanol water	low Pow 0.05

1,2,4-Trimethylbenzene:

Bioaccumulation	Species Cyprinus capio (Carp) Bioconcentration factor (BCF) 33-275

Methanol:

Bioaccumulation	Species Leuciscus idus (Golden orfe) Bioconcentration factor (BCG) <10
Partition coefficient n-octanol/water	log Pow -0.77

Octamethylcyclotetrasiloxane :

Partition coefficient n-octanol/water	log Pow 6.48 (25.1°C)

Mobility in soil
No data available

Other adverse effects

Ingredients :
Octamethylcyclotetrasiloxane

Results of PBT and vPvB Assessment	Remarks Octamethylcyclotrasiloxane (D4) meets the current REACh Annex XIII criteria for PBT and vPvB. In Canada, D4 has been assessed and deemed to meet the PiT criteria. However, D4 does not behave similarly to known PBT/vPvB substances. The weight of scientific evidence from field studies shows that D4 is not biomagnifying in aquatic and terrestrial food webs. D4 in air will degrade by reaction with naturally occurring hydroxyl radicals in the atmosphere. Any D4 in air that does not degrade by reaction with hydroxyl radicals is not expected to deposit from the air to water, to land, or to living organisms.

SECTION 13: DISPOSAL CONSIDERATIONS

Disposal methods

Resource Conservation and Recovery Act (RCRA)	When a decision is made to discard this material as supplied, it is classified as a RCRA hazardous waste.

Waste Code	D001 Ignitability D018
Waste from residues	Dispose of in accordance with local regulations.
Contaminated packaging	Dispose of as unused product. Epty containers should be taken to an approved waste handling site for recycling or disposal. Do not burn, or use a cutting torch on, the empty drum.

SECTION 14: TRANSPORT INFORMATION

International Regulation

UNRTDG

UN number	UN 1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S. (Propan-2-ol, Methanol)
Class	3
Packing group	II
Labels	3

IATA-DGR

UN/ID No.	UN1993
Proper shipping name	Flammable liquid, n.o.s. (Propan-2-ol, Mathanol)
Class	3
Packing group	II
Labels	Flammable Liquids
Packing instruction (cargo Aircraft)	364
Packing instruction (passenger Aircraft)	353

IMDG-Code

UN number	UN 1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S. (Propan-2-ol, Methanol, Stoddard solvent, 1,2,4-Trimethylbenzene)
Class	3
Packing group	II
Labels	3
EmS Code	F-E, S-E
Marine pollutant	yes

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

Domestic regulation

49 CFR

UN/ID/NA number	UN1993
Proper shipping name	FLAMMABLE LIQUIDS, N.O.S. (Propan-2-ol, Methanol)
Class	3
Packing group	II
Labels	FLAMMABLE LIQUID
ERG	128
Marine pollutant	yes (Stoddard solvent, 1,2,4-Trimethylbenzene)

SECTION 15: REGULATORY INFORMATION

EPCRA – Emergency Planning and Community Right-to-Know

CERCLA Reportable Quantity

Ingredients	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Methanol	67-56-1	5000	*
Ethylenediamine	107-15-3	5000	*

*Calculated RQ exceeds reasonable attainable upper limit.

SARA 304 Extremely Hazardous Substances Reportable Quantity

Ingredients	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
Ethylenediamine	107-15-13	5000	*

*Calculated RQ exceeds reasonably attainable upper limit.

Sara 311/312 Hazards
Fire Hazard
Acute Health Hazard
Chronic Health Hazard

SARA 302
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

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

Prpan-2-ol	67-63-0	15%
Methanol	67-56-1	1.1%

1,2,4-Trimethylbenzene	95-63-6	1.4%

US State Regulations

Pennsylvania Right To Know

Dimethyl siloxane, 3-(2-Aminoethyl)aminopropyldimethoxysiloxy-Terminated	71750-80-6	30-50%
Stoddard solvent	8052-41-3	30-50%
Solvent naphtha (petroleum), medium aliph.	64742-88-7	30-50%
Propan-2-ol	67-63-0	10-20%
1,2,4-Trimethylbenzene	95-63-6	1-5%
Methanol	67-56-1	1-5%
Ethylenediamine	107-15-3	0-0.1%

New Jersey Right to Know

Dimethyl siloxane, 3-(2-Aminoethyl)aminopropyldimethoxysiloxy-Terminated	71750-80-6	30-50%
Stoddard solvent	8052-41-3	30-50%
Solvent naphtha (petroleum), medium aliph.	64742-88-7	30-50%
Propan-2-ol	67-63-0	10-20%
1,2,4-Trimethylbenzene	95-63-6	1-5%
Methanol	67-56-1	1-5%

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

The ingredients of this product are reported in the following inventories:

KECI	All ingredients listed, exempt or notified.
REACH	All ingredients (pre-)registered or exempt.
TSCA	All chemical substances in this material are included on or exempted from listing on the TSCA Inventory of Chemical Substances.
AICS	All ingredients listed or exempt.
IECSC	All ingredients listed or exempt.
ENCS/ISHL	All components are listed on ENCS/ISHL or exempted from inventory listing.
PICCS	All ingredients listed or exempt.

DSL	All chemical substances in this product comply with the CEPA 1999 and NSNR and are on or exempt from listing on the Canadian Domestic Substances List (DSL)
NZIoC	All ingredients listed or exempt.

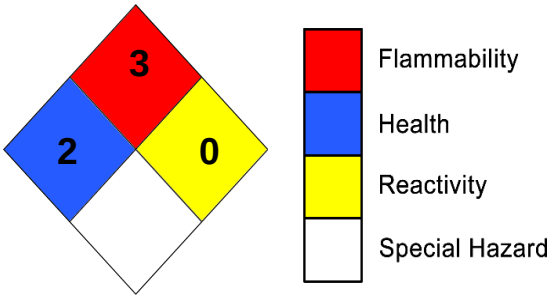
Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA

SECTION 16: OTHER INFORMATION

Further information

NFPA:



HMIS III:

HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZARD	2
PERSONAL PROTECTION	B

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

Full text of other abbreviations

ACGIH	USA. ACGIH Threshold Limit Values (TLV)
ACGIH BEI	ACGIH – Biological Exposure Indices (BEI)

NIOSH REL	USA. NIOSH Recommended Exposure Limits
OSHA Z-1	USA. Occupational Exposure Limits (OSHA) – Table Z-1 Limits for Air Contaminants
ACGIH/TWA	8-hour, time-weighted average
ACGIH/STEL	Short-term exposure limit
DCC OEL/TWA	Time weighted average
NIOSH REL/TWA	Time-weighted average concentration for up to a 10-hour workday during a 40-hour work week
NIOSH REL/ST	STEL – 15-minute TWA exposure that should not be exceeded at any time during a workday
NIOSH REL/C	Ceiling value not be exceeded at anytime.
OSHA Z-1/TWA	8-hour time weighted average

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