


SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

- 1.1 **PRODUCT NAME:** SS-4032
CHEMICAL NAME/FAMILY: Methyltris(methylethylketoxime)silane
- 1.2 **IDENTIFIED USE:** CHEMICAL FOR SYNTHESIS
- 1.3 **MANUFACTURER:** Manufactured/Supplied by Silsource Inc.
ADDRESS: 240 Mary Street, Port Perry, Ontario, L9L 1B7
- 1.4 **CHEMICAL EMERGENCY ONLY (PHONE):** CANUTEC (613) 996-6666 [24 Hr.]

SECTION 2: HAZARD IDENTIFICATION

- 2.1 **Classification of the substance or mixture**
Acute toxicity (dermal), Category 5 H313
Specific target organ toxicity - Repeated exposure, Category 1 H372
- 2.2 **Label elements**
Pictogram

Signal word : Danger
- Hazard statement(s)**
H313 May be harmful in contact with skin.
H372 Causes damage to organs through prolonged or repeated exposure.
- Precautionary statement(s)**
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P264 Wash ... thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
- Precautionary statement(s) response**
P312 Call a POISON CENTER/doctor/... if you feel unwell.
P314 Get medical advice/attention if you feel unwell.
- 2.3 **Other Hazards**
No data available

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Substance name	Other Names	Product identifier number	Concentration (%)
Methyltris(methylethylketoximo)-silane	MOS	CAS-No. : 22984-54-9	≥ 99.0
Methyl ethyl ketoxim	MEKO	CAS-No. : 96-29-7	≤ 1.0

- 3.2 **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: FIRST AID MEASURES

- 4.1 **Description of first aid measures**
General advice
Remove soiled or soaked clothing immediately.
- If inhaled**
If breathed in, move person into fresh air. In the event of symptoms seek medical advice.
- In case of skin contact**
Wash skin with plenty of water. Take off contaminated clothing.
- In case of eye contact**
Remove contact lenses, if present and easy to do. Immediately rinse thoroughly with plenty of water. Get medical attention if irritation develops and persists.
- If swallowed**
Call a poison center or a doctor if you feel unwell.
- Indication of any immediate medical attention and special treatment needed**

Treat symptomatically

SECTION 5: FIRE-FIGHTING MEASURES

- 5.1 Extinguishing media**
Suitable extinguishing media
Water spray. Dry powder. Foam. Carbon dioxide. Use dry sand or soil for asphyxiation extinguishing.
- 5.2 Special hazards arising from the substance or mixture**
Fire and heat may release carbon dioxide, carbon monoxide, and nitrogen oxides. Under certain conditions of combustion traces of other toxic substances cannot be excluded.
- 5.3 Advice for firefighters**
- | | |
|---|---|
| Precautionary measures fire | Keep container closed when not in use.
Keep away from combustible materials. |
| Firefighting instructions | Eliminate all ignition sources if safe to do so.
Fight fire with normal precautions from a reasonable distance.
Evacuate area. |
| Protection during firefighting | Do not attempt to take action without suitable protective equipment.
Self-contained breathing apparatus. Complete protective clothing. |
| Personal protection (Emergency response) | Head/neck protection. Protective clothing. Safety glasses. Gloves. |

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation. Wear recommended personal protective equipment. Ventilate spillage area.
Do not breathe dust/fume/gas/mist/vapours/spray.
Avoid contact with skin, eyes and clothing.
Do not attempt to take action without suitable protective equipment.
For further information refer to section 8: "Exposure controls/personal protection".
Evacuate unnecessary personnel.
Stop leak if safe to do so.
Use grounded electrical/mechanical equipment.
Dispose of materials or solid residues at an authorized site.
- 6.2 Environmental precautions**
Avoid release to the environment.
- 6.3 Methods and materials for containment and cleaning up**
Take up liquid spill into absorbent material.
For further information on exposure monitoring and disposal see sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

- 7.1 Precautions for safe handling**
Ensure good ventilation of the work station.
Do not breathe dust/fume/gas/mist/vapours/spray.
Do not get in eyes, on skin, or on clothing.
Wear personal protective equipment.
Wash contaminated clothing before reuse.
Do not eat, drink or smoke when using this product.
Always wash hands after handling the product.
- 7.2 Conditions for safe storage**
Store in a well-ventilated place. Keep cool.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Occupational Exposure Limits

MOS (22984-54-9)
No additional information available
MEKO (96-29-7)

No additional information available

8.2. Appropriate engineering controls

Appropriate engineering controls:
Environmental exposure controls:

Ensure good ventilation of the work station.
Avoid release to the environment.

8.3. Personal protection

Personal protective equipment:

Head/neck protection. Safety glasses. Gloves. Protective clothing. Dust/aerosol mask with filter type P1.

Hand protection:

Protective gloves

Eye protection:

Safety glasses

Skin and body protection:

Wear suitable protective clothing

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Liquid
Colour	Colourless. light yellow.
Odour	characteristic.
Odour Threshold	no data available
pH	no data available
Melting/freezing point	< -73°C (99.7 hPa)
Initial Boiling point/range	110 ~ 111°C @2mmHg
Flash point	106.7°C (1.013 kPa)
Evaporation rate	no data available
Flammability (solid/gas)	not applicable
Upper/lower flammability or explosive limits	no data available
Vapour pressure	0.085 Pa [Temp.: 25°C]
Solubility	no data available
Vapour density	> 1
Relative density	0.98 @25°C
Partition coefficient n-octanol/Water	no data available
Autoignition temperature	no data available
Decomposition temperature	no data available
Viscosity, kinematic	8.99 mm²/s Temp.: 'other:77.0°F' Parameter: 'cStcSt'
Viscosity, dynamic	no data available
Molecular mass	301.46 g/mol

9.2 Other information

Density 1 g/cm³ Type: 'density' Temp.: 20°C

SECTION 10: STABILITY AND REACTIVITY

10.1 Chemical stability and Possibility of hazardous reactions

The product is non-reactive under normal conditions of use, storage and transport.

Stable under normal conditions.

No dangerous reactions known under normal conditions of use.

10.2 Conditions to avoid

None under recommended storage and handling conditions (see section 7).

10.3 Incompatible materials

Combustible materials.

10.4 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on exposure routes

Oral	Not classified
Skin and eyes contact	Not classified
Inhalation	Not classified

11.2. Health hazards

Acute toxicity (oral)	Not classified
Acute toxicity (dermal)	May be harmful in contact with skin.

Acute toxicity (inhalation)

Not classified

MOS (22984-54-9)	
LD50 dermal rat	> 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity)
ATE KR (dermal)	2500 mg/kg bodyweight
MEKO (96-29-7)	
LD50 oral rat	930 mg/kg
LD50 dermal rabbit	185 mg/kg Source: NLM
LC50 Inhalation - Rat	20 mg/l

Skin corrosion/irritation:	Not classified
Serious eye damage/irritation:	Not classified
Respiratory sensitization:	Not classified
Skin sensitization:	Not classified
Carcinogenicity:	Not classified
Mutagenicity:	Not classified
Reproductive toxicity:	Not classified
STOT-single exposure:	Not classified
STOT-repeated exposure:	Causes damage to organs through prolonged or repeated exposure.

MOS (22984-54-9)	
LOAEL (oral, rat, 90 days)	50 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
NOAEL (oral, rat, 90 days)	10 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)
MEKO (96-29-7)	
LOAEL (oral, rat, 90 days)	40 mg/kg bodyweight Animal: rat, Guideline: other:EPA 798.6050, 798.6200, 798.6400,
NOAEC (inhalation, rat, vapour, 90 days)	0.09 mg/l air Animal: rat, Guideline: OECD Guideline 412 (Subacute Inhalation Toxicity: 28-Day Study)

Aspiration hazard:

Not classified

MOS (22984-54-9)	
Viscosity, kinematic (calculated value) (40°C)	8.99 mm ² /s Temp.: 'other:77.0°F' Parameter: 'cStcSt'
Density	1 g/cm ³ Type: 'density' Temp.: 20°C
Viscosity, kinematic	8.99 cSt Temp.: 'other:77.0°F' Parameter: 'cStcSt'
MEKO (96-29-7)	
Density	0.9232 – 0.9238 g/l Type: 'density' Temp.: 20°C
Viscosity, dynamic	≈ 15 mPa·s Temp.: '20°C' Parameter: 'dynamic viscosity (in mPa s)'

SECTION 12: ECOLOGICAL INFORMATION

12.1 Ecotoxicity

Ecology – general

Hazardous to the aquatic environment, short-term (acute)
Hazardous to the aquatic environment, long-term (chronic)

The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.

Not classified

Not classified

MOS (22984-54-9)	
EC50 - Crustacea [1]	> 120 mg/l Test organisms (species): Daphnia magna
EC50 72h - Algae [1]	94 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
EC50 72h - Algae [2]	50 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum)
LOEC (chronic)	> 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'
NOEC (chronic)	≥ 100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'

NOEC chronic fish	≥ 100 mg/l Test organisms (species): Oryzias latipes Duration: '14 d'
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12.2	Persistence and degradability	No data available
12.3.	Bioaccumulative potential	No data available
12.4.	Mobility in soil	No data available
12.5.	Other adverse effects	
	Ozone	Not classified
	Other adverse effects	No additional information available

SECTION 13: DISPOSAL CONSIDERATIONS

13.1	Disposal method	Dispose of contents/container in accordance with licensed collector's sorting instructions.
13.2	Disposal precaution	No data available

SECTION 14: TRANSPORT INFORMATION

DOT	
UN number	NA1993
UN proper shipping name	Combustible liquid, n.o.s. (Methyltrisbutanoneoxime silane (MOS))
Transport hazard class(es)	
Class	Combustible liq
Subsidiary risk	-
Label(s)	None
Packing group	III
Special precautions for user	This material is not regulated under 49 CFR if in a container of 119 gallon capacity or less. This material is classified as a combustible liquid when shipped in bulk packaging >119 G/450 L.
Special provisions	IB3, T1, T4, TP1
Packaging exceptions	150
Packaging non bulk	203
Packaging bulk	241
IATA	
IMDG	Not regulated as dangerous goods.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not regulated as dangerous goods.
General information	Not established.
	Read safety instructions, SDS and emergency procedures before handling.

SECTION 15: REGULATORY INFORMATION

15.1. Occupational Safety and Health Act	
Hazardous Substances Prohibited for Manufacturing	Not applicable
Hazardous Substances Requiring Permission	Not applicable
Threshold Limit Values Chemicals	Not applicable
Hazardous Substances Below Permissible Level	Not applicable
Hazardous Substances Subject to Working Environment Measurement	Not applicable
Hazardous Substances Subject to Workers Requiring Health Examination	Not applicable
Hazardous Substances Subject to Control	Not applicable
15.2 Other Domestic and International Regulatory Information	
Domestic	
Persistent Organic Pollutants(POPs) Control Act	Not applicable
Ozone Depleting Substances(ODS)	Not applicable
International	
EU Regulatory Information	
EU Candidate list (SVHC)	Contains no substance on the REACH candidate list.
EU authorization list (REACH Annex XIV)	Contains no REACH Annex XIV substances
EU restriction list (REACH Annex XVII)	Not applicable
US Regulatory Information	
CERCLA Section 103 (40CFR302.4)	Not applicable
EPCRA Section 302 (40CFR355.30)	Not applicable
EPCRA Section 304 (40CFR355.40)	Not applicable

EPCRA Section 313 (40CFR372.65)
International agreements
Rotterdam Convention Substances
Stockholm Convention Substances
Montreal Protocol Substances

Not applicable

Not subject
Not subject
Not subject

SECTION 16: OTHER INFORMATION

This data is offered in good faith as typical values and not as a product specification. No warranty, either expressed or implied, is made.

The recommended handling procedures are believed to be generally applicable. However, each user should review these recommendations

This SDS was prepared sincerely on the basis of the information we could obtained, however, any warranty shall not be given regarding the data contained and the assessment of hazards and toxicity. Prior to use, please investigate not only the hazards and toxicity information but also the laws and regulations of the organization, area and country where the products are to be used, which shall be given the first priority. Products are supposed to be used promptly after purchase in consideration of safety. Some new information or amendments may be added afterwards. If the products are to be used far behind the expected time of use or you have any questions, please feel free to contact us. The stated cautions are for normal handling only. In case of special handling, sufficient care should be taken, in addition to the safety measures suitable for the situation. All chemical products should be treated with the recognition of "having unknown hazards and toxicity", which differ greatly depending on the conditions and handling when in use and/or the conditions and duration of storage. The products must be handled only by those who are familiar with specialized knowledge and have experience or under the guidance of those specialists throughout use from opening to storage and disposal. Safe usage conditions shall be set up on each user's own responsibility.

This SDS is compliant with the GHS requirements outlined at http://www.ccohs.ca/oshanswers/chemicals/whmis_ghs/sds.html

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