

Product name: EM-Tec STC15 MEK solvent / thinner / cleaner
Document Nr.: SDS001150021700-01

Date: August 6th 2018
Version: 1.0

Section 1: Identification of the substance or mixture and the company

1.1. Product Identifier

EM-Tec STC15 Methyl ethyl ketone (MEK) solvent / thinner / cleaner

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

Diluting, removing and cleaning of EM-Tec AG15 silver paint

1.3. Details of the supplier of the Safety Data Sheet

Vof Micro to Nano
Wateringweg 79
2031EK Haarlem
Netherlands
Tel: +31(0)85-2013155
E: info@microtonano.com

1.4 Emergency telephone number

112 (NLD) or your national emergency telephone number for chemical spills, leaks, fires, exposures or accidents

Section 2: Hazards identification

2.1. Classification of the substance or mixture

Physical:	Flammable liquid, category 2
Health:	Eye irritation, category 2 May cause drowsiness or dizziness
Environment:	Not classified
Other hazards:	Not classified

Classification according to Regulation EC Nr. 1272/2008

	F: HIGHLY FLAMMABLE
	Xi: Irritant
Health:	R36: Irritating to eyes R66: Repeated exposure may cause skin dryness or cracking R67: Vapours may cause drowsiness and dizziness
Physical	R11: Highly flammable



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Environment: Not classified
Other hazards: Not classified

2.2 Labeling elements

Labelling accordance to Regulation EC Nr. 1272/2008



Hazard pictogram(s):

Signal word: **Danger**

Hazard statement(s):
H225: Highly flammable liquid and vapour
H319: Causes serious eye irritation
H336: May cause drowsiness or dizziness

Precautionary statement(s)

Prevention:

P102: Keep out of reach of children
P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
P233: Keep container tightly closed
P241: Use explosion proof electrical/ventilating/lighting/intrinsically safe equipment
P242: Use only non-sparking tools
P243: Take precautions against static discharge
P261: Avoid breathing mist/vapours/spray
P270: Do not eat, drink or smoke when using this product
P 271: Use outdoors or in well ventilated area (fume hood)
P280: Wear protective gloves/protective clothing/eye protection/face protection
P331: No NOT induce vomiting
P312: Call a poison center/doctor/physician/first aider if you feel unwell
P370+378: In case of fire: Use dry chemical powder, alcohol-resistant foam or carbon dioxide (CO₂) for extinction
P305+P351+P338: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses if easy to do. Continue rinsing.
P337+P313: If eye irritation persists: Get medical attention
P303+P361+P353: If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
P304+P340: If inhaled: Remove person to fresh air and keep comfortable for

Response:



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

Disposal: P501: Dispose of contents/container in accordance with local regulations

Supplemental hazard info: None

2.3 Other hazards

None

Section 3: Composition / information on components

3.1. Substances

1. CAS No 2. EC No 3. Index No 4. REACH No	% (weight)	Name	Classification according to directive 67/548/EEC [DSD]	Classification according to regulation Nr 1272/2008 [CLP]
78-93-3 201-159- 606-002-00-3 01-2119457290-43-xxxx	100	MEK Methyl ethyl ketone Synonym: Butan-2-on	R11R36R66R67	Flam. Liq. 2, Eye Irri. 2A, STOT SE 3; H225, H319, H336, EUH066

(* Explanation notes: see section 16)

3.2 Mixtures

Not applicable

Section 4: First aid measures

4.1. Description of first aid measures

Contact with eyes: Rinse cautiously with water for several minutes. If possible, remove contact lenses. Continue rinsing.
Seek medical attention if irritation persists.

Contact with skin: Wash with water and soap.
Seek medical attention if irritation persists.

Inhalation: Fresh air, keep warm and at rest.
Seek medical attention if ill effects occur

Ingestion: If swallowed, do not induce vomiting
Seek immediate medical advice



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If vomiting appears imminent or occurs hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.
Never give liquid to a person with reduced awareness
Give water to rinse out mouth, then provide water slowly as much as casually can comfortably drink
Avoid giving milk or oils
Avoid giving alcohol

4.2. Important symptoms and effects, either immediate or delayed

Inhalation: Excessive inhalation of solvent vapours may give rise to nausea, blurred vision, fatigue, headaches and dizziness
Ingestion: May cause respiratory and digestive tract irritation
Symptoms: sore throat, abdominal pain, nausea, vomiting
Skin contact: Continuous exposure: Dry skin. Cracking of skin
Eye contact: Irritating to eyes
Symptoms: redness and pain, impaired vision

4.3. Indication of any immediate medical attention and special treatment

General advice: If you feel unwell, seek medical advice; show product label if possible
If symptoms persist, always call a doctor

Section 5: Firefighting Measures

5.1. Extinguishing media

Alcohol resistant foam. Water spray. Polyvalent foam. BC powder. Carbon dioxide.
Do not use water jet.

5.2 Special hazards arising from the substance or mixture

Direct fire hazard. Highly flammable. Gas / vapour flammable with air within explosion limits.
Indirect fire hazard. May be ignited by sparks. Gas / vapour spreads to floor level: ignition hazard.
Direct explosion hazard
Indirect explosion hazard
Upon combustion CO and CO₂ are formed. Violent to explosive reaction with many compounds.
Keep away from strong oxidisers.

5.3 Advice to firefighters

Fight fire from a safe distance, with adequate cover
Do not move the load if exposed to heat.



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In case of fire; do not breathe fumes
Wear self-contained breathing apparatus for fire fighting

Section 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Shut off all ignition sources
Ensure adequate ventilation
Wear suitable protective clothing including eye/face protection

6.2 Environmental precautions

Avoid release to the environment
Do not allow to enter public sewers and waterways

6.3 Methods and material for containment and clean up

Absorb spillage in suitable inert material
Clean up spills immediately
Avoid breathing vapours
Control personal contact with the substance, by using protective equipment
Collect spillage, absorbed spillage and wipes in a flammable waste container
Wash spill area with soap and water to remove last traces of residue

6.4 Reference to other sections

For further information see section 8

Section 7: Handling and storage

7.1. Precautions for safe handling

Keep away from sources of ignition
Take precautions against static discharges
Equipment should be grounded
Use explosion proof electrical/ventilating/lighting/equipment
Only use non-sparking tools
Do not breathe aerosols or vapours
Ensure adequate ventilation
Avoid contact with skin and eyes



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Wash thoroughly after use
Wear protective gloves/protective clothing/eye protection/face protection
Have eyewash bottles available

7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed, in a cool, well ventilated place
Keep away from ignition sources
Store away from oxidising agents
Keep cool
Keep out of reach of children

7.3 Specific end uses(s)

Solvent / thinner / cleaner for EM-Tec AG15 silver paint.

Section 8: Exposure control and personal protection

8.1. Control parameters

Exposure limits

Occupational exposure limits (OEL)

Ingredient	Material Name	Source	TWA	STEL	Peak	Notes
Methyl ethyl ketone	MEK	UK	200 ppm	Not available	Not available	Not available
		EU	200 ppm	300 ppm	Not available	Not available

8.2 Exposure controls

Control procedures: Ensure adequate ventilation
Keep away from heat sources and ignition sources
Take precautions against static discharges

Personal protection: Take precautions to avoid contact with eyes and skin when handling the products
Ensure adequate ventilation

Inhalation: In case of insufficient ventilation, wear suitable respiratory equipment:
Air purifying respirator with organic gas/vapour cartridge (type A)

Hands and skin: Wear suitable gloves against chemicals; recommended gloves:
Nitrile

Eyes: Wear safety goggles or full-face protection



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Section 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance/physical state:	Liquid
Colour:	colourless
Odour:	Acetone like pungent aromatic / sweet / fruity odour
pH	7
Melting point:	-86°C
Boiling point/range:	82°C
Flash point:	-9°C (closed cup)
Relative evaporation rate:	>1
Explosion limits: upper limit:	11.5 %
 lower limit:	1.8 %
Vapour pressure:	12.6 kPa
Relative density:	0.805 g/cm ³ @ 20°C
Solubility in water:	soluble; 250 g/l
Auto-ignition:	515°C
Viscosity:	0.42 Pa.s

9.2 Other information

VOC: 100% MEK

Section 10: Stability and reactivity

10.1. Reactivity

Heating may cause fire.

10.2 Chemical stability

Stable under prescribed storage conditions

10.3 Possibility of hazardous reactions

Not known



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10.4 Conditions to avoid

Avoid overheating, ignition sources and incompatible substances

10.5 Incompatible materials

Strong oxidising agents, strong bases, strong acids

10.6 Hazardous decomposition products

Fume, CO, CO₂.

Section 11: Toxicological information

11.1. Information on toxicological effects

Information on likely routes of exposure:

Inhalation: Inhalation of solvent vapours may give rise to nausea, headaches and dizziness

Skin contact: Not classified

Eye contact: Irritation to eyes

Toxicological data:

Ingredient	Toxicity	Irritation
MEK Methyl ethyl ketone	Dermal (rabbit) LD50: 5000mg/kg	Eye - irritant
	Inhalation (rat) LC50: 20mg/L/4hrs	
	Oral (rat) LD50: 2000 mg/kg	Skin - mild

Section 12: Ecological information

12.1. Toxicity

Not classified

12.2 Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
MEK Methyl ethyl ketone	LOW	Medium



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12.3 Bioaccumulative potential

Ingredient	Bioaccumulation
MEK Methyl ethyl ketone	Will not bio-accumulate

12.4 Mobility in soil

Ingredient	Mobility in soil
MEK Methyl ethyl ketone	HIGH

12.5 Results of PBT and vPvB assessment

No information available

12.6 Hazardous decomposition products

No experimental data available

Section 13: Disposal considerations

13.1. Waste treatment methods

- Product:** This material and its container must be disposed of in a safe way. Do not discharge into drains or the environment, dispose to an authorised waste collection point.
- National regulations:** Disposal should be in accordance with local, state or national legislation.

Section 14: Transport information

Labels required:



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Safety Data Sheet

Regulation EC Nr. 1907/2006 Art.31

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14.1. UN number

UN-number: 1193

14.2 UN proper shipping name

Proper shipping name: Ethyl Methyl Ketone (Methyl Ethyl Ketone)

14.3 Transport hazard class(es)

Class: 3
ADR/RID-Classification code: F1

14.4 Packing group

Packing: II
Limited Quantity: 5L

14.5 Incompatible materials

ADR/RID- Environmentally hazardous: Not applicable
IMDG-Marine pollutant: No relevant data
IATA/ICAO-Environmentally hazardous:No relevant data

14.6 Special precautions for user

ADR/RID-Tunnel code: (D/E)
IMDG-EMS: F-E, S-D

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC code

Not applicable

Section 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

UN-number: 1193



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15.2 Chemical safety assessment

No information available

Section 16: Other information

RoHS Directive Compliant

This product is fully compliant with the directive 2100/65/EU Annex II (RoHS). It does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's or PBDE's.

WEEE

This product is not a piece of electrical or electronic equipment, and it therefore not governed by Directive 2002/96/EC on waste electrical and electronic equipment (WEEE)

Abbreviations:

Asp. Tox	Aspiration hazard
Carc.	Carcinogenicity
Exp.	Exposure
Flam.	Flammable
GHS	Global Harmonised System of Classification of Labelling Chemicals
Irrit.	Irritant
LC50	Lethal Concentration 50%
LCLo	Lowest published lethal concentration
LD50	Lethal Dose 50%
N/A	Not applicable
N/E	Not estimated
PBT	Persistent Bioaccumulative and Toxic
WEL	Workplace Exposure Limit
Repr.	Reproductive toxicant
RoHS	Restriction of Hazardous Substance
SEM	Scanning Electron Microscope
STEL	Short-Term Exposure Limit
STOT	Specific Target Organ Toxicity
TCLo	Lowest published toxic concentration
vPvB	very Persistent and very Bioaccumulative
WEEE	Waste Electrical and Electronic Equipment

DSD / DPD label elements



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Full Text Risk and Hazard codes

H225 – Highly flammable liquid and vapours
H226 – Flammable liquid and vapour.
H228 – Flammable solid
H302 – Harmful if swallowed.
H312 – Harmful in contact with skin.
H314 – Causes severe skin burns and eye damage.
H317 – May cause an allergic skin reaction.
H319 – Causes serious eye irritation.
H332 – Harmful if inhaled.
H334 – May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335 – May cause respiratory irritation.
H336 – May cause drowsiness or dizziness
H340 – May cause genetic defects.
H351 – Suspected of causing cancer.
H360 – May damage fertility or the unborn child.
H370 – Causes damages to organs.
H371 – May cause damage to organs.
H372 – Causes damage to organs through prolonged or repeated exposure.
H400 – Very toxic to aquatic life.
H410 – Very toxic to aquatic life with long lasting effects.
H411 – Toxic to aquatic life with long lasting effects.
H413 – May cause long lasting harmful effects to aquatic life.

R10 – Flammable.
R11 – Highly flammable.
R20 – Harmful by inhalation.
R20/22 – Harmful by inhalation and if swallowed.
R36 – Irritating to eyes.
R37 – Irritating respiratory system.
R38 – Irritating to skin.
R52 – Harmful to aquatic organisms
R63 – Possible risk of harm to the unborn child.
R65 – Harmful – May cause long damage if swallowed
R66 – Repeated exposure may cause skin dryness and cracking.
R67 – Vapours may cause drowsiness and dizziness

Safety advice:

S02 – Keep out of reach of children.
S09 – Keep container in a well-ventilated place.
S13 – Keep away from food, drinks, and animal feeding stuff.
S16 – Keep away from sources of ignition. No smoking.
S23 – Do not breath gas/fumes/vapour/spray.
S26 – In case of contact with eyes, rinse with plenty of water and seek medical help.



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- S28 – After contact with skin, wash immediately with detergent and plenty of waterways.
- S29 – Do not empty in drains.
- S33 – Take precautionary measures against static discharges.
- S35 – This material and its container must be disposed of in a safe way.
- S36 – Wear suitable protective clothing.
- S37 – Wear suitable gloves.
- S38 – In case of insufficient ventilation, wear suitable respiratory equipment.
- S39 - Wear eye / face protection.
- S40 – In case of insufficient ventilation, wear suitable respiratory equipment.
- S41 – In case of fire and/or explosion; DO NOT breathe fumes.
- S43 – In case of fire use....
- S45 – In case of accident or if you feel unwell, immediately contact Doctor or Poisons information center (show label if possible).
- S46 – If swallowed, seek immediate medical advice and show label if possible.
- S52 – Not recommended for interior use on large surfaces.
- S53 – Avoid exposure – obtain special instructions before use.
- S56 – Dispose of this material and its container at hazardous or special waste collection point.
- S57 – Use appropriate container to avoid environment contamination.
- S61 – Avoid release to the environment
- S63 – In case of accident by inhalation, remove casualty to fresh air and keep at rest.
- S64 – If swallowed, rinse mouth with water (only if person is conscious)

This product should be stored, handled, and used in accordance with good industrial hygiene practices and in accordance with any legal regulation.

The information contained herewith is based on the present state of our knowledge and is intended to describe the product from the point of view of safety requirements. It does not guarantee any specific properties.

It is the responsibility of the user to query and verify any information seeming suspect or where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, state, federal and international regulations.



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