Safety Data Sheet
acc. to OSHA HCS

Printing date 02/13/2020 Reviewed on 02/13/2020

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1 Identification

· **Product identifier**
· **Trade name: TechniStrip® P1331**

· **Article number:** STD5035
· **Application of the substance / the mixture**
Semiconductors industry
Plating industry
Electronic and microelectronic industry
PCB industry
Laboratory
Water treatment
Photovoltaïc industry
Resins stripping
Stripping - Cleaning
Metal etching

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
TECHNIC France
15, rue de la Montjoie
F-93210 SAINT DENIS
+33(0)149465100
· **Information department:**
Département sécurité du produit / Chemicals Hazards dpt
Contact : fds.technic@technic.fr
· **Emergency telephone number:**
+33 1 45 42 59 59 (ORFILA)
+33 1 49 46 51 00 (Technic - La Plaine Saint Denis)

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2 Hazard(s) identification

· **Substance of mixture classification**


GHS08 Health hazard

STOT SE 2 H371 May cause damage to organs.
STOT RE 2 H373 May cause damage to organs through prolonged or repeated exposure.


GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Flam. Liq. 4 H227 Combustible liquid.

· **Label elements**
· **GHS label elements** The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms** GHS05, GHS08
· **Signal word** Danger

· **Hazard-determining components of labeling:**
tetramethylammonium hydroxide
· **Hazard statements**
Combustible liquid.
Causes severe skin burns and eye damage.
May cause damage to organs.

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May cause damage to organs through prolonged or repeated exposure.

· **Precautionary statements**
Wash thoroughly after handling.
Wear protective gloves/protective clothing/eye protection/face protection.
If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Immediately call a poison center/doctor.
Specific treatment (see on this label).
Store locked up.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Classification system:**

· **NFPA ratings (scale 0 - 4)**

Health = 3
Fire = 1
Reactivity = 0

· **HMIS-ratings (scale 0 - 4)**

Health = *3
Fire = 1
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization:**
· **Description:** Mixture: consisting of the following components.

· **Dangerous components:**		
CAS: 67-68-5 Reg.nr.: 01-2119431362-50-xxxx	dimethyl sulfoxide	50-100%
CAS: 56-81-5	glycerol	2.5-10%
CAS: 75-59-2 Reg.nr.: 01-2119970562-34-xxxx	tetramethylammonium hydroxide	≤2.5%

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

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4 First-aid measures

· **Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.
· **After skin contact:**
Immediately wash with water and soap and rinse thoroughly.
Take the clothes off. Wash for 15 minutes.
Call a doctor immediately.
· **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

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· **After swallowing:**
Seek immediate medical advice.
Rinse mouth out with water
Do not eat, do not vomit
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

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5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
· **Protective equipment:** Wear fire thermal protection.

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6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:**
Inform respective authorities in case of seepage into water course or sewage system.
Dilute with plenty of water.
Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
Use neutralizing agent.
Dispose contaminated material as waste according to item 13.
Ensure adequate ventilation.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.
· **Protective Action Criteria for Chemicals**

· **PAC-1:**		
67-68-5	dimethyl sulfoxide	150 ppm
56-81-5	glycerol	45 mg/m³
75-59-2	tetramethylammonium hydroxide	0.0093 mg/m³
111-87-5	1-Octanol	5 ppm

· **PAC-2:**		
67-68-5	dimethyl sulfoxide	290 ppm
56-81-5	glycerol	180 mg/m³
75-59-2	tetramethylammonium hydroxide	0.1 mg/m³
111-87-5	1-Octanol	20 ppm

· **PAC-3:**		
67-68-5	dimethyl sulfoxide	1,800 ppm
56-81-5	glycerol	1,100 mg/m³

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75-59-2	tetramethylammonium hydroxide	0.62 mg/m³
111-87-5	1-Octanol	150 ppm

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7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Wear gloves and safety glasses.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:** No special requirements.
· **Information about storage in one common storage facility:** Not required.
· **Further information about storage conditions:** Keep receptacle tightly sealed.
· **Recommended storage temperature:** 10 - 40°C
· **Specific end use(s)** No further relevant information available.

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8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the remaining constituent has no known exposure limits.

67-68-5 dimethyl sulfoxide	
WEEL	Long-term value: 250 ppm
56-81-5 glycerol	
PEL	Long-term value: 15* 5** mg/m³ mist; *total dust **respirable fraction
TLV	TLV withdrawn-insufficient data human occup. exp.

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
· **Breathing equipment:**
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

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· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**
The exact break trough time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye protection:**

Tightly sealed goggles

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9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Color:	Yellowish
· **Odor:**	Amine-like
· **Odor threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/Melting range:	-14 °C (6.8 °F)
Boiling point/Boiling range:	134.8 °C (274.6 °F)
· **Flash point:**	101 °C (213.8 °F)
· **Flammability (solid, gaseous):**	Not applicable.
· **Decomposition temperature:**	Not determined.
· **Auto igniting:**	Product is not selfigniting.
· **Danger of explosion:**	Not determined.
· **Explosion limits:**	
Lower:	1.8 Vol %
Upper:	Not determined.
· **Vapor pressure:**	Not determined.
· **Density at 20 °C (68 °F):**	1.109 g/cm³ (9.255 lbs/gal)
· **Relative density**	Not determined.
· **Vapor density**	Not determined.
· **Evaporation rate**	Not determined.

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· **Solubility in / Miscibility with**	
Water:	Fully miscible.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Other information**	No further relevant information available.

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10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:** No further relevant information available.
· **Hazardous decomposition products:**
Poisonous gases/vapors
Sulfur oxides (SOx)

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11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
75-59-2 tetramethylammonium hydroxide		
Oral	DL50	50-300 mg/kg (rat)
Dermal	DL50	50-200 mg/kg (rabbit)

· **Primary irritant effect:**
· **on the skin:** Strong caustic effect on skin and mucous membranes.
· **on the eye:** Strong caustic effect.
· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Corrosive
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**		
58-08-2	caffeine	3

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

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12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Harmful to fish
· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Harmful to aquatic organisms
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

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14 Transport information

· **UN-Number**	
· **DOT, ADR, IMDG, IATA**	UN3267
· **UN proper shipping name**	
· **DOT**	Corrosive liquid, basic, organic, n.o.s. (Tetramethylammonium hydroxide solution)
· **ADR**	3267 Corrosive liquid, basic, organic, n.o.s. (Tetramethylammonium hydroxide solution)
· **IMDG, IATA**	CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION)
· **Transport hazard class(es)**	
· **DOT**	

· **Class**	8 Corrosive substances

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· **Label**	8
· **ADR**	
	
· **Class**	8 (C7) Corrosive substances
· **Label**	8
· **IMDG, IATA**	
	
· **Class**	8 Corrosive substances
· **Label**	8
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	III
· **Environmental hazards:**	
· **Marine pollutant:**	No
· **Special precautions for user**	Warning: Corrosive substances
· **Danger code (Kemler):**	80
· **EMS Number:**	F-A,S-B
· **Segregation groups**	Alkalis
· **Stowage Category**	A
· **Stowage Code**	SW2 Clear of living quarters.
· **Segregation Code**	SG35 Stow "separated from" acids.
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 1000 ml
· **UN "Model Regulation":**	UN 3267 CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (TETRAMETHYLAMMONIUM HYDROXIDE SOLUTION), 8, III

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15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **Sara**

· **Section 355 (extremely hazardous substances):**

None of the ingredient is listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

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· **TSCA (Toxic Substances Control Act):**

67-68-5	dimethyl sulfoxide
56-81-5	glycerol
75-59-2	tetramethylammonium hydroxide
58-08-2	caffeine
111-87-5	1-Octanol
	Eau purifiée

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients is listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **National regulations:**

· **Water hazard class:** Water hazard class 1 (Self-assessment): slightly hazardous for water.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** EH&S Department
· **Contact:** fds.technic@technic.fr
· **Date of preparation / last revision** 02/13/2020 / 9
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic

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vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Flam. Liq. 4: Flammable liquids – Category 4
Skin Corr. 1B: Skin corrosion/irritation – Category 1B
STOT SE 2: Specific target organ toxicity (single exposure) – Category 2
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2
· *** Data compared to the previous version altered.**