SECTION 1. IDENTIFICATION

Product name : METALURE UV FPG 41501
Product code : 023937N20

Manufacturer or supplier's details
Company name of supplier : ECKART GmbH
Address : Guentersthal 4
           Hartenstein  91235
Telephone : +499152770
Telefax : +499152777008
Emergency telephone : CHEMTREC: 800-424-9300
                      CHEMTREC: 1-703-527-3387 (International)
GBK Gefahrgut Buero GmbH, Ingelheim, Germany:
From outside US: (001) 352-323-3500
(First call in English, response in your language is possible)
US & Canada (toll free):1-800-5355-053

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the Hazardous Products Regulations
Skin irritation : Category 2
Eye irritation : Category 2A
Skin sensitization : Category 1

GHS label elements
Hazard pictograms : 
Signal Word : Warning
Hazard Statements : H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.

Precautionary Statements:

Prevention:
P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/spray.
P264 Wash skin thoroughly after handling.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/ eye protection/ face protection.

Response:
P302 + P352 IF ON SKIN: Wash with plenty of water.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P337 + P313 If eye irritation persists: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.

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

Hazardous ingredients which must be listed on the label:
Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propen-1-yl)oxy]-, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1)
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.,.alpha.-1,2,3-propanetriyltris[.omega.-[(1-oxo-2-propen-1-yl)oxy]-2-Propenoic acid, 1,1'-[2-ethyl-2-[[1-oxo-2-propen-1-yl]oxy]methyl]-1,3-propanediyl] ester

Other hazards
None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS-No.</th>
<th>Concentration (% w/w)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propen-1-yl)oxy]-, ether with 2-ethyl-2-(hydroxymethyl)-1,3-</td>
<td>28961-43-5</td>
<td>&gt;= 70 - &lt; 90</td>
</tr>
</tbody>
</table>
propanediol (3:1) | Aluminum | 7429-90-5 | >= 10 - < 20
Poly[oxy(methyl-1,2-ethanediyl)], .alpha.,.alpha.',.alpha.'-1,2,3-propanetriyltris.[omega.-[(1-oxo-2-propan-1-yl)oxy]-] | 52408-84-1 | >= 1 - < 5
1-Hexadecanole, 1-(dihydrogen phosphate) | 3539-43-3 | >= 1 - < 3
2-Propenoic acid, 1,1'-[2-ethyl-2-][(1-oxo-2-propan-1-yl)oxy]methyl]-1,3-propanediyl] ester | 15625-89-5 | >= 0.1 - < 1

**SECTION 4. FIRST AID MEASURES**

**General advice**
- Take the victim into fresh air.
- Do not leave the victim unattended.
- Move out of dangerous area.
- Show this material safety data sheet to the doctor in attendance.

**If inhaled**
- If unconscious, place in recovery position and seek medical advice.
- If symptoms persist, call a physician.

**In case of skin contact**
- Wash off immediately with soap and plenty of water.
- If skin irritation persists, call a physician.
- If on skin, rinse well with water.
- If on clothes, remove clothes.

**In case of eye contact**
- Immediately flush eye(s) with plenty of water.
- Flush eyes with water as a precaution.
- Remove contact lenses.
- Keep eye wide open while rinsing.
- If eye irritation persists, consult a specialist.

**If swallowed**
- Keep respiratory tract clear.
- Do not give milk or alcoholic beverages.
- Never give anything by mouth to an unconscious person.
- If symptoms persist, call a physician.

**Most important symptoms and effects, both acute and delayed**
- Causes skin irritation.
- May cause an allergic skin reaction.
- Causes serious eye irritation.
SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: Dry sand
Special powder against metal fire

Unsuitable extinguishing media: Water
Foam
ABC powder
Carbon dioxide (CO2)

Further information: Standard procedure for chemical fires.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Special protective equipment for fire-fighters: Use personal protective equipment.
Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:
Evacuate personnel to safe areas.
Use personal protective equipment.
Remove all sources of ignition.
Use personal protective equipment.
Avoid dust formation.

Environmental precautions:
Prevent product from entering drains.
Prevent further leakage or spillage if safe to do so.

Methods and materials for containment and cleaning up:
Use mechanical handling equipment.
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
Do not flush with water.
Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion:
Keep away from open flames, hot surfaces and sources of ignition.
Earthing of containers and apparatuses is essential.
Avoid dust formation.

Advice on safe handling:
- Keep away from heat and sources of ignition.
- Avoid dust formation.
- Ensure adequate ventilation.
- Avoid formation of respirable particles.
- Do not breathe vapors/dust.
- Avoid exposure - obtain special instructions before use.
- Avoid contact with skin and eyes.
- For personal protection see section 8.
- Smoking, eating and drinking should be prohibited in the application area.
- Dispose of rinse water in accordance with local and national regulations.
- Persons susceptible to skin sensitization problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this mixture is being used.

Conditions for safe storage:
- Store in original container.
- Keep containers tightly closed in a cool, well-ventilated place.
- Keep container closed when not in use.
- Keep away from sources of ignition - No smoking.
- Keep container tightly closed in a dry and well-ventilated place.
- Electrical installations / working materials must comply with the technological safety standards.

Materials to avoid:
- Do not store together with oxidizing and self-igniting products.
- Never allow product to get in contact with water during storage.
- Keep away from oxidizing agents, strongly alkaline and strongly acid materials in order to avoid exothermic reactions.

Further information on storage stability:
- No decomposition if stored and applied as directed.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Value type</th>
<th>Control parameters / Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

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SAFETY DATA SHEET
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<table>
<thead>
<tr>
<th>Exposure</th>
<th>Permissible concentration</th>
<th>Limit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aluminum</td>
<td>TWAEV 10 mg/m3</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td>TWA 10 mg/m3</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td>TWA (Respirable) 1 mg/m3</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td>TWA (Dust) 10 mg/m3</td>
<td>CA AB OEL</td>
</tr>
<tr>
<td></td>
<td>TWAEV 10 mg/m3</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td>TWA (Respirable) 1 mg/m3 (Aluminum)</td>
<td>CA BC OEL</td>
</tr>
<tr>
<td></td>
<td>TWAEV (Fumes) 5 mg/m3 (Aluminum)</td>
<td>CA QC OEL</td>
</tr>
<tr>
<td></td>
<td>TWA (Respirable fraction) 1 mg/m3</td>
<td>ACGIH</td>
</tr>
<tr>
<td></td>
<td>TWA (Respirable fraction) 1 mg/m3 (Aluminum)</td>
<td>ACGIH</td>
</tr>
</tbody>
</table>

Personal protective equipment
Respiratory protection: Use suitable breathing protection if workplace concentration requires.

Hand protection
Material: Solvent-resistant gloves

Remarks: Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact). The exact break through time can be obtained from the protective glove producer and this has to be observed. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Recommended preventive skin protection Skin should be washed after contact. The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection: Safety glasses

Skin and body protection: Long sleeved clothing, Safety shoes. Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures: When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Pasty solid
Color: No data available
Odor: Characteristic
Odor Threshold: No data available
pH: No data available
Melting point/freezing point: No data available
Initial boiling point and boiling range: No data available
Flash point: No data available
Evaporation rate: No data available
Flammability (solid, gas): Combustible Solids

Auto-flammability: Not auto-flammable
Upper explosion limit / Upper flammability limit: No data available
Lower explosion limit / Lower flammability limit: No data available
Vapor pressure: No data available
Relative density: No data available
Solubility(ies): Water solubility: Insoluble
Partition coefficient: n-octanol/water: No data available
Autoignition temperature: No data available
Decomposition temperature: No data available
Viscosity: No data available
Explosive properties: Not explosive

SECTION 10. STABILITY AND REACTIVITY

Reactivity: No decomposition if stored and applied as directed.
Chemical stability : No decomposition if stored and applied as directed.

Possibility of hazardous reactions : Reacts with alkalis, acids, halogenes and oxidizing agents. Contact with acids and alkalis may release hydrogen. Mixture reacts slowly with water resulting in evolution of hydrogen. Vapor/air-mixtures are explosive at intense warming. Stable under recommended storage conditions.

Conditions to avoid : Do not allow to dry.

Incompatible materials : Acids
Stable under recommended storage conditions.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity
Not classified based on available information.

Skin corrosion/irritation
Causes skin irritation.

Components:
Poly(oxy-1,2-ethanediyl), \( \alpha \)-hydro-\( \omega \)-[(1-oxo-2-propen-1-yl)oxy]-, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1):
Result: Skin irritation

1-Hexadecanol, 1-(dihydrogen phosphate):
Remarks: Extremely corrosive and destructive to tissue.

2-Propenoic acid, 1,1\(^\prime\)-[2-ethyl-2-[(1-oxo-2-propen-1-yl)oxy]methyl]-1,3-propanediyl] ester:
Result: Skin irritation

Serious eye damage/eye irritation
Causes serious eye irritation.
Components:
Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propen-1-yl)oxy]-, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1):
Remarks: Vapors may cause irritation to the eyes, respiratory system and the skin.

1-Hexadecanol, 1-(dihydrogen phosphate):
Remarks: May cause irreversible eye damage.

2-Propenoic acid, 1,1'-[2-ethyl-2-[(1-oxo-2-propen-1-yl)oxy]methyl]-1,3-propanediyl] ester:
Result: Eye irritation

Respiratory or skin sensitization
Skin sensitization
May cause an allergic skin reaction.

Respiratory sensitization
Not classified based on available information.

Components:
Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propen-1-yl)oxy]-, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1):
Result: May cause sensitization by skin contact.

Remarks: Causes sensitization.
May cause sensitization of susceptible persons by skin contact.

2-Propenoic acid, 1,1'-[2-ethyl-2-[(1-oxo-2-propen-1-yl)oxy]methyl]-1,3-propanediyl] ester:
Result: May cause sensitization by skin contact.

Germ cell mutagenicity
Not classified based on available information.

Carcinogenicity
Not classified based on available information.

Reproductive toxicity
Not classified based on available information.

STOT—single exposure
Not classified based on available information.
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STOT-repeated exposure
Not classified based on available information.

Aspiration toxicity
Not classified based on available information.

Further information
Components:
Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propen-1-yloxy)-, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1):
Remarks: No data available

1-Hexadecanol, 1-(dihydrogen phosphate):
Remarks: No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity
Components:
Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propen-1-yloxy)-, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1):
Toxicity to daphnia and other aquatic invertebrates: (Daphnia): 10,232.73 mg/l

2-Propenoic acid, 1,1'-[2-ethyl-2-[(1-oxo-2-propen-1-yloxy)methyl]-1,3-propanediyl] ester:
Ecotoxicology Assessment
Chronic aquatic toxicity : Harmful to aquatic life with long lasting effects.

Persistence and degradability
No data available

Bioaccumulative potential
No data available

Other adverse effects
No data available

Components:
Poly(oxy-1,2-ethanediyl), .alpha.-hydro-.omega.-[(1-oxo-2-propen-1-yloxy)-, ether with 2-ethyl-2-(hydroxymethyl)-1,3-propanediol (3:1):
Additional ecological : No data available
information

1-Hexadecanol, 1-(dihydrogen phosphate):
Additional ecological information : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods
Waste from residues : Do not dispose of waste into sewer.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.
In accordance with local and national regulations.

Contaminated packaging : Empty remaining contents.
Disposal of as unused product.
Do not re-use empty containers.
In accordance with local and national regulations.

SECTION 14. TRANSPORT INFORMATION

Domestic regulation
49 CFR : Not classified as dangerous in the meaning of transport regulations.

International Regulations
Remarks : Not classified as dangerous in the meaning of transport regulations.

ADR : Not classified as dangerous in the meaning of transport regulations.

IATA-DGR : Not classified as dangerous in the meaning of transport regulations.

IMDG-Code : Not classified as dangerous in the meaning of transport regulations.

Not dangerous goods in the meaning of ADR/RID, ADN, IMDG-Code, ICAO/IATA-DGR
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

SECTION 15. REGULATORY INFORMATION

NPRI Components
Aluminum

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

DSL
This product contains one or several components that are not on the Canadian DSL nor NDSL.

TSCA
On TSCA Inventory

Canadian lists
No substances are subject to a Significant New Activity Notification.

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH: USA. ACGIH Threshold Limit Values (TLV)
CA BC OEL: Canada. British Columbia OEL
CA QC OEL: Québec. Regulation respecting occupational health and safety, Schedule 1, Part 1: Permissible exposure values for airborne contaminants
ACGIH / TWA: 8-hour, time-weighted average
CA AB OEL / TWA: 8-hour Occupational exposure limit
CA BC OEL / TWA: 8-hour time weighted average
CA QC OEL / TWA: Time-weighted average exposure value

AICS - Australian Inventory of Chemical Substances; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR - Carcinogen, Mutagen or Reproductive Toxicant; CPR - Controlled Products Regulations; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; 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; 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 Organisation for Standardization; KECl - 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; n.o.s. - Not Otherwise Specified; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; 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; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative; WHMIS - Workplace Hazardous Materials Information System

Revision Date : 07/31/2018

The information provided in this Material Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

CA / Z8