


SAFETY DATA SHEET

SECTION 1: Identification of the substance/mixture and of the company/undertaking

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| 1.1 Product identifiers [1a,b] TRADE NAME(s) | Aculon® NanoProof® 2.1 | 1.2 Relevant identified uses of the substance or mixture and uses advised against [1c] CHEMICAL FAMILY/ APPLICATION/ RESTRICTIONS | Chemical Mixture Hydrocarbon Coating Solution |
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| <p>1.3 Details of the supplier of the safety data sheet</p> <div style="text-align: center;">  <p>ACULON ^[1D]</p> <p>10110 Sorrento Valley Road, San Diego, CA 92121 phone 858-350-9474 fax 858-350-9422 Email: support@aculon.com www.aculon.com</p> </div> | <p>1.4 Emergency telephone number</p> <p style="text-align: center;">Emergency Telephone Number ^[1E]</p> <p style="text-align: center;">CHEMTEL CHEMICAL DOMESTIC NORTH AMERICA: 1-800-255-3924 INTERNATIONAL CALLERS OUTSIDE THE US TERRITORIES AND CANADA: +1-813-248-0585</p> <p style="text-align: right;">Revision Date: 12/23/2019</p> |
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SECTION 2: Hazards identification

Note: The hazards shown on this SDS are for the bulk chemistry and are provided for application/processing safety information. The final coating once dry is not hazardous per 29 CFR 1910 (OSHA HCS)

^[2A] **GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**

Classification according to EU Directives 67/548/EEC or 1999/45/EC

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Flammable liquids (Category 2), H225

Skin irritation (Category 2), H315

Specific target organ toxicity - single exposure (Category 3), Central nervous system, H336

Aspiration hazard (Category 1), H304

Acute aquatic toxicity (Category 1), H400

Chronic aquatic toxicity (Category 1), H410

2.2 Label elements Labelling according Regulation (EC) No 1272/2008

^[2B] **LABELING ELEMENTS, Hazard, and Precautionary Statements**



Signal word: Danger Pictogram(s):

Hazard statement(s):

H225 Highly flammable liquid and vapour.
 H304 May be fatal if swallowed and enters airways.
 H315 Causes skin irritation.
 H336 May cause drowsiness or dizziness.
 H410 Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

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.
 P261 Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray.
 P264 Wash skin thoroughly after handling.
 P271 Use only outdoors or in a well-ventilated area.
 P273 Avoid release to the environment.
 P280 Wear protective gloves/ eye protection/ face protection.
 P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor.
 P303 + P361 + P353 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower.
 P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
 P331 Do NOT induce vomiting.
 P332 + P313 If skin irritation occurs: Get medical advice/ attention.
 P362 Take off contaminated clothing and wash before reuse.
 P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
 P391 Collect spillage.
 P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
 P403 + P235 Store in a well-ventilated place. Keep cool.
 P405 Store locked up.
 P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Other hazards

^[2C]**HAZARDS NOT OTHERWISE CLASSIFIED:** This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

^[2D]**INGREDIENTS OF UNKNOWN ACUTE TOXICITY \geq 1%: none**

SECTION 3: Composition/information on ingredients

Hazardous ingredients according to Regulation (EC) No 1272/2008 and 29 CFR 1910 (OSHA HCS)

| Component | Classification | Concentration |
|--|---|---------------|
| Methylcyclohexane | | |
| CAS-No. 108-87-2 EC-No.203-624-3 Index-No.601-018-00-1 | Flam. Liq. 2; Skin Irrit. 2; STOT SE 3; Asp. Tox. 1; Aquatic Acute 1; Aquatic Chronic 1; H225, H304, H315, H336, H410 | 82 - 86% |
| Proprietary Polymer - not an OSHA Hazardous Material | | |
| CAS-No. n/a EC-No. n/a Index-No. n/a | n/a | 14-18% |

* The specific chemical identity and/or percentage of this material has been withheld as a trade secret.

SECTION 4: First aid measures

| 4.1 Description of first aid measures | |
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| General advice | Consult a physician. Show this safety data sheet to the doctor in attendance. |
| ^[4a] INHALATION | If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician. |
| ^[4a] SKIN CONTACT | Wash off with soap and plenty of water. Consult a physician. |
| ^[4a] EYE CONTACT | Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician. |
| ^[4a] INGESTION | Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician. |
| ^[4b] MOST IMPORTANT SYMPTOMS & EFFECTS | The most important known symptoms and effects are described in the labelling (see section 2) and/or in section 11 |
| ^[4c] INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED | no data available |

SECTION 5: Firefighting measures

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| ^[5a] 5.1 Extinguishing Media/SUITABLE/ UNSUITABLE EXTINGUISHING | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
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| MEDIA | |
| ^[5b] 5.2 SPECIFIC HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE (IE HAZARDOUS COMBUSTION PRODUCTS) | Burning may form Carbon oxides. Use water spray to cool unopened containers. |
| ^[5c] 5.3 ADVICE FOR FIREFIGHTERS/ PRECAUTIONS / SPECIAL PROTECTIVE EQUIPMENT | Wear self contained breathing apparatus for fire fighting if necessary. |
| 5.4 FURTHER INFORMATION | Use water spray to cool unopened containers. |

SECTION 6: Accidental release measures

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| ^[6a] 6.1 PERSONAL PRECAUTIONS, PPE, EMERGENCY PROCEDURES | Use personal protective equipment. Avoid breathing vapours. Ensure adequate ventilation. Remove all sources of ignition. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8. |
| 6.2 Environmental precautions | Prevent further leakage or spillage if safe to do so. Do not let product enter drains. |
| ^[6a] 6.3 METHODS & MATERIALS FOR CONTAINMENT & CLEANING UP | Contain spillage, wipe up any liquid and place in container for disposal according to local regulations (see section 13). |
| 6.4 REFERENCE TO OTHER SECTIONS | For disposal see section 13. |

SECTION 7: Handling and storage

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| ^[7a] 7.1 PRECAUTIONS FOR SAFE HANDLING | Avoid contact with skin and eyes. Avoid inhalation of vapour. Keep away from sources of ignition - No smoking. Take measures to prevent the buildup of electrostatic charge. For precautions see section 2.2. |
| ^[7b] 7.2 CONDITIONS FOR SAFE STORAGE, INCLUDING ANY INCOMPATIBILITIES | Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be used immediately before they dry out. |
| ^{7.3} SPECIFIC END USES | Apart from the uses mentioned in section 1.2 no other specific uses are stipulated |

SECTION 8: Exposure controls/personal protection

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| 8.1 CONTROL PARAMETERS: COMPONENTS WITH WORKPLACE CONTROL PARAMETERS |
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| [8a] COMPONENT | CAS# | PEL/ TWA/ STEL | CONTROL PARAMETERS | BASIS (ACGIH, OSHA ETC) |
|-------------------|----------|----------------------|------------------------|--|
| Methylcyclohexane | 108-87-2 | TWA | 400 ppm | USA. ACGIH Threshold Limit Values (TLV) Remarks: Central Nervous system impairment Upper Respiratory Tract irritation Liver damage Kidney damage |
| | | TWA | 400 ppm 1600 mg/m3 | USA. NIOSH Recommended Exposure Limits |
| | | TWA | 500 ppm 2000 mg/m3 | USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants |
| | | TWA | 400 ppm 1,600 mg/m3 | USA. NIOSH Recommended Exposure Limits |
| | | TWA | 400 ppm | USA. ACGIH Threshold Limit Values (TLV) Central Nervous System impairment Upper Respiratory Tract irritation Liver damage Kidney damage |

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| [8b] 8.2 EXPOSURE CONTROLS/ VENTILATION / ENGINEERING CONTROLS | Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday. |
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PERSONAL PROTECTIVE EQUIPMENT

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| [8c] RESPIRATORY PROTECTION | Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). |
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| [8c] SKIN PROTECTION | Handle with gloves. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. Full contact Material: Nitrile rubber Minimum layer thickness: 0.4 mm Break through time: 480 min Material tested: Camatril® (KCL 730 / Aldrich Z677442, Size M) Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 35 min |
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| | Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario. |
| [8c] EYE PROTECTION | Safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU). |
| [8c] CLOTHING/BODY PROTECTION | Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. |
| CONTROL OF ENVIRONMENTAL EXPOSURE | Prevent further leakage or spillage if safe to do so. Do not let product enter drains. |

SECTION 9: Physical and chemical properties

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| [9a] Appearance (physical state, color, etc.) | Thick Liquid, Clear Colorless | [9j] Upper/lower flammability or explosive limits: | Lower: 1.1% UEL: 6.7% |
| [9b] Odor | no data available | [9k] Vapor pressure | 110.9 hPa (83.2 mmHg) at 37.7 °C (99.9 °F) 49.3 hPa (37.0 mmHg) at 20.0 °C (68.0 °F) |
| [9c] Odor threshold | no data available | [9l] Vapor density | no data available |
| [9d] pH | no data available | [9m] Relative Density | 0.77 g/cm ³ at 25 °C |
| [9e] Melting point/freezing point | -126 °C (-195 °F) - lit.. | [9n] Solubility (in H₂O) | no data available |
| [9f] Initial boiling point and boiling range | 101 °C (214 °F) - lit. | [9o] Partition coefficient: n-octanol/water | log Pow: 3.44 |
| [9g] Flash point | -4.0 °C (24.8 °F) - closed cup | [9p] Auto-ignition temperature | 283.0 °C (541.4 °F) |
| [9h] Evaporation rate | no data available | [9q] Decomposition temperature | no data available |
| [9i] Flammability (solid, gas) | no data available | [9r] Viscosity | no data available |
| | | [9s] Explosive Properties | no data available |
| | | [9t] Oxidizing Properties | no data available |

9.2 Other safety information: No data available

SECTION 10: Stability and reactivity

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| [10a 10.1] REACTIVITY | no data available |
| [10b 10.2] CHEMICAL STABILITY | Stable under recommended storage conditions.. |
| [10c 10.3] POSSIBILITIES OF HAZARDOUS | Vapours may form explosive mixture with air. |

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| REACTIONS | |
| [10d 10.4] CONDITIONS TO AVOID | Ignition sources, excess heat, incompatible materials |
| [10e 10.5] INCOMPATIBLE MATERIALS | Strong oxidizing agents, |
| [10f 10.6] HAZARDOUS DECOMPOSITION PRODUCTS | Other decomposition products - no data available In the event of fire: see section 5 |

SECTION 11: Toxicological information

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| [11a] LIKELY ROUTES OF EXPOSURE | <p>INHALATION: is not expected if proper ventilation or personal protective equipment is used while working with this product</p> <p>INGESTION: Ingestion is not expected if proper industrial hygiene practices are followed, including no eating, drinking, or smoking while working with chemicals</p> <p>SKIN: is not expected if proper personal protective equipment (gloves and protective clothing) is used while working with this product</p> <p>EYE CONTACT: is not expected if proper personal protective equipment (safety glasses or goggles) is used while working with this product</p> |
| [11b] SYMPTOMS RELATED TO PHYSICAL, CHEMICAL & TOXIC CHARACTERISTICS | <p>INHALATION: May be fatal if swallowed and enters airways.</p> <p>INGESTION: May be fatal if swallowed and enters airways.</p> <p>SKIN: May result in mild eye irritation</p> <p>EYE CONTACT: no data available</p> |
| [11c] DELAYED / IMMEDIATE EFFECTS, CHRONIC EFFECTS FROM SHORT/LONG TERM EXPOSURE | <p>Reproductive toxicity: Rat - male and female - Oral No toxicity to reproduction</p> <p>Specific target organ toxicity - single exposure: May cause drowsiness or dizziness.</p> <p>Specific target organ toxicity - repeated exposure: no data available</p> <p>Aspiration hazard: May be fatal if swallowed and enters airways.</p> |
| [11d] NUMERICAL MEASURES OF TOXICITY | <p>ACUTE TOXICITY ESTIMATES: none known</p> <p>Acute toxicity No data available Inhalation: No data available Dermal: No data available No data available</p> <p>SKIN CORROSION/IRRITATION No data available</p> <p>Serious eye damage/eye irritation Eyes - Rabbit Result: No eye irritation (OECD Test Guideline 405)</p> <p>Respiratory or skin sensitization No data available</p> |

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| | <p>Germ cell mutagenicity Did not show mutagenic effects in animal experiments. Chromosome aberration test in vitro Chinese hamster lung cells Result: negative Ames test Salmonella typhim</p> |
| ^[11e] CARCINOGENICITY | No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC, NTP, or OSHA |
| ADDITIONAL INFORMATION | Repeated dose toxicity Rat - male and female - Oral - NOAEL : 250 mg/kg Rat - male and female - Inhalation - NOAEL : 1.6 mg/l RTECS: GV6125000 prolonged or repeated exposure can cause:, narcosis |

SECTION 12: Ecological information

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| ^[12a 12.1] ECOTOXICITY | Toxicity to fish semi-static test LC50 - <i>Oryzias latipes</i> - 2.07 mg/l - 96 h (OECD Test Guideline 203) Toxicity to daphnia and other aquatic invertebrates semi-static test EC50 - <i>Daphnia magna</i> (Water flea) - 0.326 mg/l - 48 h Toxicity to algae static test EC50 - <i>Pseudokirchneriella subcapitata</i> (green algae) - 0.134 mg/l - 72 h |
| ^[12b 12.2] PERSISTENCE AND DEGRADABILITY | This product is not biodegradable |
| ^[12c 12.3] BIOACCUMULATIVE POTENTIAL | No data available |
| ^[12d 12.4] MOBILITY IN SOIL | No data available |
| ^{12.5} RESULTS OF PBT AND vPvB ASSESSMENT | PBT/vPvB assessment not available as chemical safety assessment not required/not conducted |
| ^[12e 12.6] OTHER ADVERSE EFFECTS (OZONE LAYER ETC.) | An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic life with long lasting effects. |

SECTION 13: Disposal considerations

^[13]Contact a licensed professional waste disposal service.

Contaminated Packaging Disposal: Contact a licensed professional waste disposal service.

SECTION 14: Transport information

| | 14.1[a] UN number | 14.2[b] UN proper shipping name | 14.3[c] Transport hazard class(es) | 14.4[d] Packaging group | 14.5[e] Environmental hazards |
|-----------------------------------|-------------------|---------------------------------|------------------------------------|-------------------------|---|
| ADR/RID: | UN2296 | Methylcyclohexane | 3 | II | not applicable |
| IMDG: | UN2296 | Methylcyclohexane | 3 | II | EMS-NO: F-E, S-D Marine Pollutant: yes |
| IATA: | UN2296 | Methylcyclohexane | 3 | II | not applicable |
| US DOT | UN2296 | Methylcyclohexane | 3 | II | not applicable |
| 14.6 Special precautions for user | N/A | | | | |

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| ^[14d] ENVIRONMENTAL HAZARDS | Marine Pollutant: yes |
| ^[14f] BULK TRANSPORT (MARPOL 73/78/IBC CODE) | IMDG: UN2296, Methylcyclohexane, 3, II EMS-No: F-E, S-D |
| ^[14g] SPECIAL PRECAUTIONS | none known |

SECTION 15: Regulatory information

EU

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

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| 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture | No data available |
| 15.2 Chemical Safety Assessment | For this product a chemical safety assessment was not carried out |

US

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| TSCA | The components in this mixture are listed on the US inventory. |
| OSHA | This document has been prepared in accordance with the SDS requirements |

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| | of the OSHA Hazard Communication Standard. |
| SARA SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES | No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302. |
| The following components are subject to reporting levels established by SARA Title III, Section 313 | This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313. |
| Sara 311/312 Hazards | Fire Hazard, Acute Health Hazard, Chronic Health Hazard |
| Massachusetts Right To Know Components | Methylcyclohexane CAS-No. 108-87-2, Revision Date 1993-04-24 |
| Pennsylvania Right To Know Components | Methylcyclohexane CAS-No. 108-87-2, Revision Date 1993-04-24 |
| New Jersey Right To Know Components | Methylcyclohexane CAS-No. 108-87-2, Revision Date 1993-04-24 |
| California Prop. 65 Components | This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm. |

SECTION 16: Other information

Revision Date: 12/23/2019 Updated Address under Section 1
 01/25/2019 Updated "Note" under section 2
 06/14/2018 Updated Emergency Contact and Trademarks
 03/13/18

Full text of H-Statements referred to under sections 2 and 3.

Aquatic Acute Acute aquatic toxicity
Aquatic Chronic Chronic aquatic toxicity
Asp. Tox. Aspiration hazard
Flam. Liq. Flammable liquids
H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
Skin Irrit. Skin irritation

INFORMATION CONTAINED IN THIS SAFETY DATA SHEET IS FOR USE BY TECHNICALLY QUALIFIED PERSONNEL AT THEIR DISCRETION AND RISK. ALL STATEMENTS, TECHNICAL INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED ON TESTS AND DATA WHICH WE BELIEVE TO BE RELIABLE, BUT THE ACCURACY OR COMPLETENESS THEREOF IS NOT GUARANTEED AND NO WARRANT OF ANY KIND IS MADE WITH RESPECT THERETO. SINCE THE COMPANY SHALL HAVE NO CONTROL OF THE USE OF THE PRODUCT DESCRIBED HEREIN, THE COMPANY ASSUMES NO LIABILITY OF LOSS OR DAMAGE INCURRED FROM THE PROPER OR IMPROPER USE OF SUCH PRODUCT.

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