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SAFETY DATA SHEET

Section 1. PRODUCT AND COMPANY INFORMATION



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TRADE NAME(s)

Aculon® NanoProof 3 Series Extender

[10] CHEMICAL FAMILY/
APPLICATION/ RESTRICTIONS

Chemical Mixture coating

Section 2. HAZARDOUS IDENTIFICATION

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

Skin Irritation 2, H315 Eye Irritation 2, H319 STOT SE 3a, H335

LABELING ELEMENTS, Hazard, and Precautionary Statements

Signal word: Warning



Pictogram(s):

Hazard statement(s)::

H335: May cause respiratory irritation. H319: Causes serious eve irritation.

H315: Causes skin irritation.

Precautionary statement(s):

P261 Avoid breathing vapours.

P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.

P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

[20] HAZARDS NOT OTHERWISE CLASSIFIED: none known

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[2D]INGREDIENTS OF UNKNOWN ACUTE TOXICITY >/= 1%:

Section 3. COMPOSITION / INFORMATION ON INGREDIENT(S)

[3a,b,d]CHEMICAL NAME/SYNONYMS	[3C]CAS NUMBER	EINECS NO.	CONC.*
1,1,2,2-Tetrafluoroethyl 2,2,2-trifluoroethyl ether	406-78-0	459-330-2	55-65%
Methyl nonafluoroisobutyl ether	163702-08-7	n/a	20 - 45%
Methyl nonafluorobutyl ether	163702-07-6	605-340-9	0 - 10%

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

Section 4. FIRST AID MEASURES

[4a]INHALATION	Remove person to fresh air. If you feel unwell, get medical attention.
[4a]SKIN CONTACT	Wash with soap and water. If signs/symptoms develop, get medical attention.
[4a]EYE CONTACT	Flush with large amounts of water. Remove contact lenses if easy to do. Continue rinsing. If signs/symptoms persist, get medical attention.
[4a]INGESTION	Rinse mouth. Do not induce vomiting. Get immediate medical attention.
[4b]MOST IMPORTANT SYMPTOMS & EFFECTS	See Section 11.1. Information on toxicological effects.
[40]INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED	

Section 5. FIREFIGHTING MEASURES

[5a] SUITABLE/	
UNSUITABLE	Non-combustible. Use a fire fighting agent suitable for surrounding fire.
EXTINGUISHING MEDIA	Non-combastible. Use a life lighting agent suitable for surrounding life.
[5b] SPECIFIC HAZARDS IE	Exposure to extreme heat can give rise to thermal decomposition.
HAZARDOUS	
COMBUSTION PRODUCTS	
[5c] PRECAUTIONS /	When fire fighting conditions are severe and total thermal decomposition of the product is
SPECIAL PROTECTIVE	possible, wear full protective clothing, including helmet, self-contained, positive pressure or
	pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and
	legs, face mask, and protective covering for exposed areas of the head.

Section 6. ACCIDENTAL RELEASE MEASURES

[60] PERSON PRECAUTIONS, PPE, EMERGENCY PROCEDURES	Ventilate the area with fresh air. For large spill, or spills in confined spaces, provide mechanical ventilation to disperse or exhaust vapors, in accordance with good industrial hygiene practice. Warning! A motor could be an ignition source and could cause flammable gases or vapors in the spill area to burn or explode. Refer to other sections of this SDS for information regarding physical and health hazards, respiratory protection, ventilation, and personal protective equipment.
MATERIALS OF	Contain spill. Working from around the edges of the spill inward, cover with bentonite, vermiculite, or commercially available inorganic absorbent material. Mix in sufficient absorbent until it appears dry. Remember, adding an absorbent material does not remove a physical, health, or environmental hazard. Collect as much of the spilled material as possible. Place in a closed container approved for transportation by appropriate authorities. Clean up residue with an appropriate solvent selected by a qualified and authorized person. Ventilate the area with fresh air.

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> Read and follow safety precautions on the solvent label and SDS. Seal the container. Dispose of collected material as soon as possible.

Section 7. HANDLING AND STORAGE

PRECAUTION
FOR SAFE
HANDLING

Do not breathe thermal decomposition products. Avoid skin contact with hot material. For industrial or professional use only. Store work clothes separately from other clothing, food and tobacco products. Avoid release to the environment. Avoid contact with oxidizing agents (eg. chlorine, chromic acid etc.) No smoking: Smoking while using this product can result in contamination of the tobacco and/or smoke and lead to the formation of hazardous decomposition products.

SAFE STORAGE

[70] **CONDITIONS FOR** Keep container tightly closed. Store away from heat. Store away from acids. Store away from strong bases. Store away from oxidizing agents.

Section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

[8a] COMPONENT	PEL/ TWA/ STEL	CONTROL PARAMETERS	BASIS (ACGIH, OSHA ETC)	NOTES
1,1,2,2-Tetrafluoroe thyl 2,2,2-trifluoroethyl ether	TLV- TWA & STEL	N/E	ACGIH	
1,1,2,2-Tetrafluoroe thyl 2,2,2-trifluoroethyl ether	AEL	50 PPM (8h-TWA)	AEL is the Acceptable Exposure Limit set by the solvent manufacturer	
Methyl nonafluorobutyl ether	TWA	750 ppm	ACGIH TLV	163702-07-6
Methyl nonafluoroisobutyl ether	TWA	750 ppm	ACGIH TLV	163702-08-7

ENGINEERING	Provide appropriate local exhaust For those situations where the material might be exposed to extreme overheating due to misuse or equipment failure, use with appropriate local exhaust ventilation sufficient to maintain levels of thermal decomposition products below their exposure
[8c] RESPIRATORY	guidelines. If ventilation is not adequate, use respiratory protection equipment. If using spray application and local ventilation is not available use respiratory protection against
	mists (Organic Vapor Cartridges).
[BC]SKIN PROTECTION	Wear protective gloves.
	Select and use eye/face protection to prevent contact based on the results of an exposure assessment. The following eye/face protection(s) are recommended: Safety Glasses with side shields
[8c]CLOTHING	Wear appropriate protective clothing to prevent skin exposure.

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IX. PHYSICAL AND CHEMICAL PROPERTIES

[9a]Appearance (physical state,	Liquid, Clear Colorless	[9]Upper/lower flammability or	None detected
color, etc.		explosive limits:	
[9b] Odor	alcohol-like	[9k]Vapor pressure	no data available
[9c]Odor threshold	no data available	[91]Vapor density	no data available
H q [be]	Not Applicable	[9m]Relative Density	1.5
[9e]]Melting point/freezing point	-91 °C	[9n]Solubility (in H ₂ O)	No Data Available
	56 °C [@ 760 mmHg]	[90]Partition coefficient:	no data available
range		n-octanol/water	
թյFlash point	No flash point	[9p]Auto-ignition temperature	no data available
թղEvaporation rate	No data available	[9q]Decomposition	Not Applicable
		temperature	
□Flammability (solid, gas)	Not Applicable	[9r]Viscosity	no data available

X. STABILITY AND REACTIVITY

[10a] REACTIVITY	This material may be reactive with certain agents under certain conditions - see the remaining		
	headings in this section.		
[10b] CHEMICAL STABILITY	Stable.		
[10c] POSSIBILITIES OF	Hazardous polymerization will not occur.		
HAZARDOUS REACTIONS			
[10d] CONDITIONS TO AVOID	None known.		
[10e] INCOMPATIBLE	Strong acids, Strong oxidizing agents		
MATERIALS			
™ HAZARDOUS DECOMPOSITION PRODUCTS	Hydrogen Fluoride At Elevated Temperatures - extreme conditions of heat		
I and the second	If the product is exposed to extreme condition of heat from misuse or equipment failure, toxic decomposition products that include hydrogen fluoride and perfluoroisobutylene can occur.		

Section 11. TOXICOLOGY INFORMATION

[11a] LIKELY ROUTES OF EXPOSURE	INHALATION: Vapors may cause irritation of the respiratory system. There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing. INGESTION:There may be soreness and redness of the mouth and throat. SKIN: There may be irritation and redness at the site of contact. EYE CONTACT: There may be irritation and redness. The eyes may water profusely.
	INHALATION: Vapors may cause irritation of the respiratory system. There may be irritation of the throat with a feeling of tightness in the chest. Exposure may cause coughing or wheezing. INGESTION:There may be soreness and redness of the mouth and throat. SKIN: There may be irritation and redness at the site of contact. EYE CONTACT: There may be irritation and redness. The eyes may water profusely.
IMMEDIATE EFFECTS, CHRONIC EFFECTS FROM SHORT/LONG	Reproductive toxicity: no data available Specific target organ toxicity - single exposure: no data available Specific target organ toxicity - repeated exposure: no data available Aspiration hazard: no data available

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[11D] NUMERICAL	Acute Toxicity
	No data available
TOXICITY	
[11e]	Carcinogenicity: Data not available
CARCINOGENICITY	

Section 12. ECOLOGICAL INFORMATION

[12a] ECOTOXICITY	No data available
	No data available
AND	
DEGRADABILITY	
[12c]BIOACCUMULATIV	No data available
E POTENTIAL	
[12d]MOBILITY IN SOIL	No data available
[12e]OTHER ADVERSE	No data available
EFFECTS (OZONE	
LAYER ETC.)	

Section 13. DISPOSAL CONSIDERATIONS

🖾 Dispose of contents/ container in accordance with the local/regional/national/international regulations. Dispose of waste product in a permitted industrial waste facility. As a disposal alternative, incinerate in a permitted waste incineration facility. Proper destruction may require the use of additional fuel during incineration processes. Combustion products will include halogen acid (HCl/HF/HBr). Facility must be capable of handling halogenated materials. Empty drums/barrels/containers for transporting handling hazardous used and chemicals substances/mixtures/preparations classified as Hazardous as per applicable regulations) shall be considered, stored, treated & disposed of as hazardous wastes unless otherwise defined by applicable waste regulations. Consult with the respective regulating authorities to determine the available treatment and disposal facilities.

Contaminated Packaging Disposal:

Section 14. TRANSPORTATION INFORMATION

[14a] UN/NA	[145] UN/NA PROPER SHIPPING NAME	[14ca] TRANSPORT HAZARD CLASS	[14d] PACKING GROUP

US DOT/IATA	Not regulated as a hazardous material by DOT, IMO, or IATA	
[14d] ENVIRONMENTAL	Not regulated	
HAZARDS		
[14f] BULK TRANSPORT	Not regulated	
(MARPOL 73/78/IBC CODE)		

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[149] SPECIAL PRECAUTIONS Not regulated

Section 15. REGULATORY INFORMATION

US

EPA	Solvent is considered VOC free
OSHA	This document has been prepared in accordance with the SDS requirements
	of the OSHA Hazard Communication Standard.
SARA SECTION 302 EXTREMELY	No chemicals in this material are subject to the reporting requirements of
HAZARDOUS SUBSTANCES	SARA Title III, Section 302.
The following components are subject to	
reporting levels established by SARA	
Title III, Section 313	
Sara 311/312 Hazards	Fire Hazard - No Pressure Hazard - No Reactivity Hazard - No Immediate
	Hazard - Yes Delayed Hazard - No
Massachusetts Right To Know	Not listed
Components	
Pennsylvania Right To Know	Not listed
Components	
New Jersey Right To Know Components	Not listed
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.

XVI. OTHER INFORMATION

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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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