SAFETY DATA SHEET

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

[1a,b 1.1] PRODUCT IDENTIFIERS/ TRADE NAME(s)	Aculon NanoClear Test Pen	[1c 1.2] RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST	test pen

1.3 Details of the supplier of the safety data sheet

[1D]

10110 Sorrento Valley Road
San Diego, CA 92121
phone 858-350-9474
fax 858-350-9422
Email: support@aculon.com
www.aculon.com

1.4 Emergency telephone number

Emergency Telephone Number [1E]

Chemtrec CCN696855
1-800-424-9300 (US/Canada)
+1-703-527-3887 (International)

Revision Date: 05/26/2021

SECTION 2: Hazards identification

[2A] **GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)**
2.1 Classification of the substance or mixture
Classification according to Regulation (EC) No 1272/2008

Carcinogenicity (Category 2), H351
Reproductive toxicity (Category 1B), H360
Specific target organ toxicity - repeated exposure, Oral (Category 2), Blood, H373

For the full text of the H-Statements mentioned in this Section, see Section 16.

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):
H351 Suspected of causing cancer.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs (Blood) through prolonged or repeated exposure if swallowed.

Precautionary statement(s)
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P260 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264 Wash skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P273 Avoid release to the environment.
P281 Use personal protective equipment as required.
P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P405 Store locked up.
P501 Dispose of contents/ container to an approved waste disposal plant.
\
Supplemental Hazard Statements: none

[2C 2.3]**OTHER 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 >/= 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
Basic Violet 1; synonyms Methyl Violet 2B formula: $(CH_3)_2CHOH$ Mol wt.: 60.10		
CAS-No. 8004-87-3 EC-No. Index-No	Acute Tox. 4; Carc. 2; Aquatic Acute 1; Aquatic Chronic 1; H302, H351, H410	0.3%

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

Component	Classification	Concentration
Formic amide; synonyms formamide;; Amide C1 Included in the Candidate List of Substances of Very High Concern (SVHC) according to Regulation (EC) No. 1907/2006 (REACH) Formula : CH3NO Molecular weight : 45.04 g/mol		
CAS-No. : 75-12-7 EC-No. : 200-842-0 Index-No. : 616-052-00-8 Registration number : 01-2119496064-35-XXXX	Carc. 2; Repr. 1B; STOT RE 2; H351, H360, H373	60 - 70%

* 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	
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

[5a] **5.1 Extinguishing Media/SUITABLE/ UNSUITABLE EXTINGUISHING MEDIA**	Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
[5b] **5.2 SPECIFIC HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE(IE HAZARDOUS COMBUSTION PRODUCTS)**	Burning may form Carbon oxides and Nitrogen 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

[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

[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

8.1 CONTROL PARAMETERS: COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

[8a] COMPONENT	CAS#	PEL/ TWA/ STEL	CONTROL PARAMETERS	BASIS (ACGIH, OSHA ETC)
Formamide	75-12-7	TWA	10 ppm	USA. ACGIH Threshold Limit Values (TLV)
	Remarks	Eye irritation Liver damage Kidney damage Skin irritation Danger of cutaneous absorption		
		TWA	10 ppm 15 mg/m3	USA. NIOSH Recommended Exposure Limits
	Remarks	Potential for dermal absorption		

[8b] **8.2 EXPOSURE**	Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks

CONTROLS/ VENTILATION / ENGINEERING CONTROLS	and at the end of workday.
PERSONAL PROTECTIVE EQUIPMENT	
[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).
[8c]**SKIN PROTECTION**	Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching the glove's outer surface) to avoid skin contact with this product. 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: 0.2 mm Break through time: 480 min Material tested:Dermatril® P (KCL 743 / Aldrich Z677388, Size M) Splash contact Material: Nitrile rubber Minimum layer thickness: 0.11 mm Break through time: 450 min 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

[9a]**Appearance (physical state, color, etc.**	Liquid, purple color	[9j]**Upper/lower flammability or explosive limits:**	Lower: 19% (V) UEL: 2.7% (2.7)
[9b]**Odor**	Ammonia odor	[9k]**Vapor pressure**	no data available
[9c]**Odor threshold**	no data available	[9l]**Vapor density**	no data available
[9d]**pH**	no data available	[9m]**Relative Density**	no data available
[9e]]**Melting point/freezing point**	no data available	[9n]**Solubility (in H_2O)**	miscible

[9f] **Initial boiling point and boiling range**	no data available	[9o] **Partition coefficient: n-octanol/water**	no data available
[9g] **Flash point**	> 175C	[9p] **Auto-ignition temperature**	425.0 °C (797.0 °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

[10a 10.1] **REACTIVITY**	no data available
[10b 10.2] **CHEMICAL STABILITY**	Stable under recommended storage conditions..
[10c 10.3] **POSSIBILITIES OF HAZARDOUS REACTIONS**	none known
[10d 10.4] **CONDITIONS TO AVOID**	heat
[10e 10.5] **INCOMPATIBLE MATERIALS**	Strong oxidizing agents, bases, hydrogen peroxide, iodine, pyridine, sulphur oxides
[10f 10.6] **HAZARDOUS DECOMPOSITION PRODUCTS**	Other decomposition products - no data available In the event of fire: see section 5

SECTION 11: Toxicological information

[11a] **LIKELY ROUTES OF EXPOSURE**	INHALATION: is not expected if proper ventilation or personal protective equipment is used while working with this product INGESTION: Ingestion is not expected if proper industrial hygiene practices are followed, including no eating, drinking, or smoking while working with chemicals SKIN: is not expected if proper personal protective equipment (gloves and protective clothing) is used while working with this product EYE CONTACT: is not expected if proper personal protective equipment (safety glasses or goggles) is used while working with this product
[11b] **SYMPTOMS RELATED TO PHYSICAL, CHEMICAL & TOXIC CHARACTERISTICS**	INHALATION: No data available INGESTION: Presumed human reproductive toxicant on repeated exposure SKIN: Presumed human reproductive toxicant on repeated exposure EYE CONTACT: May cause Mild irritation
[11d] **DELAYED / IMMEDIATE EFFECTS, CHRONIC EFFECTS FROM SHORT/LONG**	**Reproductive toxicity**: Presumed human reproductive toxicant Reproductive toxicity - Rat - Oral Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants). Effects on Embryo or Fetus: Fetotoxicity (except death, e.g., stunted fetus). Developmental Toxicity - Rat - Skin

TERM EXPOSURE	Effects on Embryo or Fetus: Fetal death. **Specific target organ toxicity - single exposure**: No data available **Specific target organ toxicity - repeated exposure**: Oral - May cause damage to organs through prolonged or repeated exposure. - Blood **Aspiration hazard**: No data available
[11D] **NUMERICAL MEASURES OF TOXICITY**	**ACUTE TOXICITY ESTIMATES**: **Acute toxicity (formamide)** LD50 Oral - Rat - male and female - 5,325 mg/kg (OECD Test Guideline 401) LC50 Inhalation - Rat - male - 4 h - > 21 mg/l (OECD Test Guideline 403) LD50 Dermal - Rat - male and female - > 3,000 mg/kg **Skin corrosion/irritation** Skin - Rabbit Result: No skin irritation - 20 h **Serious eye damage/eye irritation** Eyes - Rabbit Result: Mild eye irritation (OECD Test Guideline 405) **Respiratory or skin sensitisation** No data available **Germ cell mutagenicity** Ames test S. typhimurium Result: negative Mutagenicity (micronucleus test) Mouse - male and female Result: negative **Carcinogenicity** Formamide: Suspected human carcinogens Basic Violet 1: Limited evidence of a carcinogenic effect.
[11e] **CARCINOGENICITY**	IARC: 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. ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH. NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP. OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.
ADDITIONAL INFORMATION	(Formamide) Repeated dose toxicity - Rat - female - Oral - No observed adverse effect level - 40 mg/kg Repeated dose toxicity - Rat - male and female - Dermal - No observed adverse effect level - 100 mg/kg RTECS: LQ0525000 Gastrointestinal disturbance, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated. Blood - Irregularities - Based on Human Evidence Blood - Irregularities - Based on Human Evidence

SECTION 12: Ecological information

[12a 12.1] **ECOTOXICITY**	Formamide Toxicity data Toxicity to fish static test LC50 - Leuciscus idus (Golden orfe) - 6,569 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates static test EC50 - Daphnia magna (Water flea) - > 500 mg/l - 48 h Toxicity to algae static test EC50 - Desmodesmus subspicatus (green algae) - > 500 mg/l - 72 h Toxicity to bacteria Respiration inhibition EC50 - Sludge Treatment - > 1,000 mg/l - 30 min (OECD Test Guideline 209) Basic Violet 1 Toxicity data Toxicity to fish LC50 - Pimephales promelas (fathead minnow) - 0.047 mg/l - 96 h Toxicity to daphnia and other aquatic invertebrates: LC50 - Daphnia magna (Water flea) - 420 mg/l - 48 h
[12b 12.2]**PERSISTENCE AND DEGRADABILITY**	Formamide: Biodegradability aerobic - Exposure time 28 d Result: 99 % - Readily biodegradable (OECD Test Guideline 301A)
[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.)**	No data available

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:	Not dangerous goods				
IMDG:	Not dangerous goods				
IATA:	Not dangerous goods				

US DOT	Not dangerous goods				

[14d] **ENVIRONMENTAL HAZARDS**	Marine Pollutant: no
[14f] **BULK TRANSPORT (MARPOL 73/78/IBC CODE)**	**IMDG:** NOT APPLICABLE
[14g] **SPECIAL PRECAUTIONS**	none known

SECTION 15: Regulatory information

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

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

TSCA	The components in this mixture are listed on the US inventory.
OSHA	This document has been prepared in accordance with the SDS requirements 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	Chronic Health Hazard
Massachusetts Right To Know Components	Formamide, CAS-No. 75-12-7 Revision Date 1994-04-01
Pennsylvania Right To Know Components	Formamide, CAS-No. 75-12-7 Revision Date 1994-04-01 C.I. Basic violet 1, CAS-No CAS-No. 8004-87-3
New Jersey Right To Know Components	Formamide, CAS-No. 75-12-7 Revision Date 1994-04-01 C.I. Basic violet 1, CAS-No CAS-No. 8004-87-3
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: 05/26/2021
Version 3.0 updated address and 24 hour emergency contact
version 2.0 updated information

Carc. Carcinogenicity
H351 Suspected of causing cancer.

H360 May damage fertility or the unborn child.
H373 May cause damage to organs through prolonged or repeated exposure if swallowed.
Repr. Reproductive toxicity
STOT RE Specific target organ toxicity - repeated exposure
Acute Tox. Acute toxicity
Aquatic Acute Acute aquatic toxicity
Aquatic Chronic Chronic aquatic toxicity
Carc. Carcinogenicity
H302 Harmful if swallowed.
H351 Suspected of causing cancer.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

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