

**MATERIAL SAFETY DATA SHEET****WARRIOR CLEAR COAT Ag⁺ SHIELD****SECTION 1. PRODUCT IDENTIFICATION**

Product Name :	Warrior Clear Coat Ag ⁺ Shield
Product Code :	RN-Nco
Catalogue Number :	RN-Nco-L, RN-Nco-M, RN-Nco-H
Manufacturer/Supplier :	Reinste Nano Ventures Private Limited, A-118, Level II, Sector 63, Noida.201301. UP. India 9810662669 0120-4781-212/3 info@reinste.com www.reinste.com , www.hiyka.com
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SECTION 2. INGREDIENTS

TriethoxyoctylSilane :	(CAS No.)2943-75-1
Isopropyl alcohol :	(CAS No.)67-63-0
Ethanol :	(CAS No.)64-17-5
2-butoxyethanol :	(CAS No.)111-76-2
2-methyl-2,4 pentanediol :	(CAS No.)107-41-5
Water :	(CAS No.)7732-18-5
Silver :	(CAS No.)7440-22-4
Other additional substances in trace amounts	

SECTION 3. PHYSICAL AND CHEMICAL PROPERTIES

Appearance :	Highly viscous gel
Colour :	white
Door :	somewhat, ester-like
pH:	neutral, 6.5 – 7.5
Freezing point (°C) :	not available
Stability :	3 °C to 40 °C
User temperature :	15 °C to 35 °C
Melting point (°C) :	not available
Boiling point (°C) :	not available
Decomposition temperature (°C) :	not available
Viscosity, dynamic :	2 mPas (20 °C) ; method: DIN 53 015
Specific density (Kg/dm ³) :	0.92
Relative density vs. water :	0.92
Viscosity, dynamic :	100 - 1.500 mPas at 25 °C
Bulk density (Kg/m ³) :	not applicable
Vapour pressure (kPa) :	cfr. Water
Solubility in water (g/ 100 ml) :	miscible
Flash point (°C) :	> 93 °C, Method ; DIN EN ISO 2719 Pensky-Martens, Closed Cup
Self ignition temperature (°C) :	not applicable
Explosiveness :	not explosive
Explosion limit - lower (°C) :	0,5 % (V)(200 °C) method ; DIN EN 1839
Explosion limit – upper (°C) :	> 13,5 % (V) (200 °C) method ; DIN EN 1839
Log P octanol / water at 20 °C :	not applicable
Evaporation speed :	cf. Water
Oxidation – properties :	cf. Water
Specific conductivity (S/m) :	cf. Water

SECTION 4. STABILITY AND REACTIVITY

Reactivity :	reacts with acids, forming ethanol.
Chemical stability :	stable under normal conditions.
Potential hazardous reactions :	heat development
Conditions to avoid :	other than normal use, avoid evaporation of the emulsion. Prevent from freezing.
Chemical reactive substances :	not known
Hazardous decomposition :	formation of ethanol

SECTION 5. EXPOSURE CONTROLS / PERSONAL PROTECTION EQUIPMENT

Control parameters / exposure limits	
MAC values :	The product does not contain substances for which MAC values are determined.
DNEL / DMEL values :	DNEL / DMEL values are not available.
PNEC values :	PNEC values are not available.
Measures for exposure control/ Personal protection	



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Respiratory protection :

In case of development of vapours/ aerosols: short-term use, filtering device, combination filter A-P2

Hand protection :

glove material For example, butyl rubber Material strength 0,5 mm

Penetration time :

>= 480 min

Eye protection :

well fitted safety goggles

Skin and corporal protection :

Wear suitable clothing for the method of use.

Hygienic precautions :

Do not eat, drink or smoke during use. Wash hands and/or face before every break and after use.

Environmental control :

Take necessary measures to prevent product from flowing into the environment.

SECTION 6. HAZARDS IDENTIFICATION

Classification of the mixture:

Classification according to directive 1272-2008-EC

The mixture causes skin irritation category 2 with H315: causes skin irritation.

Labelling elements:

Labelling according to directive 1272-2008-EC

Hazard :

GHS 07

Signal word:

Warning

Hazard Statement(s):

H315: causes skin irritation

Precautionary Statements:

P280: Wear protective gloves.

P262: Do not get in eyes, on skin, or on clothing.

P302 + P352: IF ON SKIN: Wash with plenty of water/ soap. P332 + P313: If skin irritation occurs: Get medical advice/attention

Other hazards:

Physical/ Chemical hazards:

a small quantity of ethanol can be generated during use.

Health hazards :

with normal use, no immediate hazards.

Environmental hazards :

slightly hazardous for water.

SECTION 7. TOXICOLOGICAL INFORMATION

These data are for n-octyltriethoxysilane, the most important component of the preparation.

Toxicological information

Acute oral toxicity :

LD50 rat: > 5110 mg/kg

Method :

OECD Test Directive 401

Acute inhaling toxicity :

LC0 rat: 22 ppm / 4 h / vapour method: OECD Test Directive 403

maximum reachable concentration in the test :

no animal died.

Acute dermal toxicity :

LD50 rabbit: 6730 mg/kg LD50 rabbit: 6730 mg/kg

Skin irritation :

rabbit irritating ; method: OECD Test Directive 404

Eye irritation :

rabbit not irritating ; method: OECD Test Directive 405

Sensitisation :

Maximizing test guinea pig: Has no sensitizing effect. ; method: OECD Test

Repeated dose toxicity :

Oral rat / 28 days

NOAEL :

300 mg/kg, method: OECD TG 422

STOT single exposure :

The substance of the mixture is not classified as specific target organ poison, single exposure.

STOT repeated exposure :

The substance of the mixture is not classified as specific target organ poison, repeated exposure.

Aspiration toxicity :

no indications related to aspiration toxicity

Gene toxicity in vitro :

Ames test Salmonella typhimurium, negative, method: OECD TG 471

Chromosomal aberration Chinese hamster (CHO K1 -cells) negative, method:

OECD TG 473

Gene mutation in infant cells :

TK +/- mouse-lymphoma cells (L5178Y), negative, method: OECD TG 476

Carcinogenicity :

no data available

Toxicity related to reproduction :

Screening of toxicity for procreation

Developmental toxicity :

Oral rat, exposure frequency: daily NOAEL (No Observed Adverse Effect Level) parents method: OECD TG 422

Screening of toxicity for procreation/ developmental toxicity :

Oral rat, exposure frequency: daily ; NOAEL F1: 300 mg/kg, method: OECD TG 422

SECTION 8. FIRST AID MEASURES

Description

In general :

immediately remove soiled, soaked clothing.

Inhalation :

provide fresh air. In case of complaints, consult a physician.

Skin contact :

if contact with skin, immediately wash with water and soap. In case of long-term skin irritation, consult a physician.

Eye contact :

Keep eyelids open and rinse immediately and thoroughly for at least 5 minutes with plenty of water, possibly with an eye rinse solution. In case of persistent complaints, consult an ophthalmologist.

If swallowed :

rinse mouth thoroughly with water. Give immediately plenty of water to drink in small sips (dilution effect). In case of complaints, consult a physician.

Important acute and delayed symptoms and effects :

skin irritation.

Indication of the required immediate medical care and special treatment :

treat symptomatically. If larger quantities are swallowed, administer activated carbon. Acceleration of the stomach-intestinal transit.

SECTION 9. FIRE FIGHTING MEASURES

Extinguishing agents

Suitable extinguishing agents :

alcohol resistant foam, carbon dioxide, dry powder, water jet full water jet

Unsuitable extinguishing agents :

Particular hazards for firefighting

Hazardous combustion products :

In case of fire, carbon monoxide, carbon dioxide, smoke, vapour and incomplete combustion products can be released.

Advice for fire fighters

Instructions for fire fighting :

Use a water jet (sprayed) to cool neighbouring packages and constructions. Extinguishing water should not flow into sewers, ground water or open surface waters. If it occurs, inform authorities. Take measures to collect extinguishing water. Use standard protection gear and in closed rooms, use an independent breathing device.

Unusual fire hazards :

unknown

Properties of flammability :

> 93 °C, Method: DIN EN ISO 2719 Pensky- Martens, Closed Cup

SECTION 10. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective gear, and emergency procedures.

Indication :

In case of accidental release, inform appropriate authorities and apply the legislation in force.

Protective measures :

avoid contact with eyes, skin and clothing. Avoid contact with product and vapours. Wear personal protection gear.

Environmental precautions :

should not flow into sewers, soil, ground water or open surface water

Clean up methods and material:

On the ground :

Soak up with inert absorbent material. Put into a suitable container for waste disposal.

On water :

forms an emulsion.

Neutralization :

N.A.

Disposal :

Dispose in a safe manner according to local and national regulations.

SECTION 11. HANDLING AND STORAGE

Precautions for safe handling of the mixture:

Handling :

Avoid contact with eyes, skin and clothing. Do not inhale gases, vapors and aerosols. Provide sufficient ventilation. Wash hands before every break and immediately after the use of the product.

Loading and unloading temperature :

ambient temperature

Transport temperature :

ambient temperature

Safe storage conditions including incompatible products:

Storage temperature :

store at temperatures between 5 and 30°C.

For quality reasons :

do not expose to temperatures below the freezing point.

Suitable packaging :

LDPE buckets, 25 KG and smaller, packaging suitable for injection equipment.

Suitable materials and coatings :

poly-ethylene, poly-propylene, carbon steel, stainless steel.

Unsuitable materials and coatings :

do not use materials which are corroded by water.

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Toxicity for fish :

In the context of water solubility, the product is not poisonous under testing circumstances.

Toxicity for bacteria :

EC50 Organic mud municipal purification: > 1000 mg/l / 3 h, method: OECD TG 209

NOEC Organic mud municipal purification :

>= 1000 mg/l / 3 h, method: OECD TG 209

Persistence and degradability

Biological degradability :

Exposure time: 28 d, 31,5 % Not easily biodegradable, method: OECD TG 301 D

Bioaccumulation :

not bio accumulative

Mobility in the soil :

absorption within the soil: low.

Results of PBT and vPvB assessment :

according to the REACH criteria no PBT-, vPvB- mixture.

Other harmful effects

Other ecological information :

the available data do not lead to environmental hazards

SECTION 13. TRANSPORT INFORMATION

Transport / more information

ADR / IATA-DGR :

the preparation is not considered as a hazardous chemical substance according to the National and International laws and regulations related to the transport of hazardous chemical substances. Keep away from food and animal feed.



UN-number: -
Proper shipping name according to
UN Model Regulations : -
Transport hazard class : -
Packaging group : -
Environmental hazards : -
Special user precautions : -

SECTION 14. DISPOSAL CONSIDERATIONS

Waste processing methods Product : Can be incinerated if in accordance with local legislation or disposed taking into consideration the necessary technical regulations and in consultation with a certified processor.
Contaminated packaging : Dispose as unused product.
Waste code number : The waste code number has to be determined in accordance with the European waste code list, 2000/532/EC in consultation with the waste processor/ manufacturer/ authorities.

SECTION 15. REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture Dir. 98/24/EC (Risks related to chemical agents at work) Dir. 2000/39/EC (Occupational exposure limit values) Dir. 2006/8/EC Regulation (EC) n. 1907/2006 (REACH) Regulation (EC) n. 1272/2008 (CLP) Regulation (EC) n. 790/2009 (ATP 1 CLP) and (EU) n. 758/2013 Regulation (EU) n. 453/2010 (Annex I) Regulation (EU) n. 286/2011 (ATP 2 CLP) Regulation (EU) n. 618/2012 (ATP 3 CLP) Regulation (EU) n. 487/2013 (ATP 4 CLP) Regulation (EU) n. 944/2013 (ATP 5 CLP) Restrictions related to the product or the substances contained according to Annex XVII Regulation (EC) 1907/2006 (REACH) and subsequent modifications: Restrictions related to the product: Restriction 3 Restriction 40 Restrictions related to the substances contained: No restriction. REACH Regulation (1907/2006) – All. XVII: N.A. Legislative Decree no. 81 of the 9th of April 2008 Title XI "Dangerous substances - Chapter I - Protection against chemical agents" Directive 2000/39/CE and s.m.i. (Professional threshold limit) Legislative Decree no. 152 of the 3rd of April 2006 and subsequent modifications and additions. (Environmental regulations) Directive 105/2003/CE (Seveso III): N.A

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