

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Name **EXOCOAT AC**

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Coating raw material. R&D use only.
Uses advised against No information available.

1.3. Details of the supplier of the safety data sheet

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1.4. Emergency telephone number

Global Incident Response Hotline (Access code: 333881)
Europe: +1 760 476 3962
Great Britain: +44 20 35147487
North-America: 1.866.519.4752
South-America: 1.760.476.3961
Asia Pacific: +86-4001203572
Middle East/Africa: 1-760-476-3959
Australia: +61-280363166
New Zealand: +64 800 451719

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (1272/2008/EC)

Skin corrosion/irritation	Category 1B - H314
Serious eye damage/eye irritation	Category 1 - H318
Skin sensitisation	Category 1 - H317
Chronic aquatic toxicity	Category 3 - H412
Flammable liquid	Category 2 - H225

2.2. Label elements



Signal word
Danger

Hazard Statements

Incompletely evaluated substances - For R&D purpose only - Not to be copied to third parties.

H225 - Highly flammable liquid and vapour
 H314 - Causes severe skin burns and eye damage
 H317 - May cause an allergic skin reaction
 H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking
 P273 - Avoid release to the environment
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower
 P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
 P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
 P403 + P235 - Store in a well-ventilated place. Keep cool

2.3 Other hazards

None known.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	EC-No	CAS-No	Weight %	Classification (1272/2008/EC)	REACH Registration Number
Silane 3	Proprietary	Proprietary	40-60	Skin Sens.1: H317 Aquatic Chronic 3: H412	-
Alcohol	200-578-6	64-17-5	20-30	Flam. Liq. 2 H225	01-2119457610-43
Silane 2	Proprietary	Proprietary	5-15	Flam. Liq. 3 H226 STOT SE 3 H335 Acute Tox. 4 H332 Eye Irrit. 2 H319	-
Silane 1	Proprietary	Proprietary	0.1-10	Skin Corr. 1B H314 Eye Dam. 1 H318	-
Phosphate ester	Proprietary	Proprietary	2-8	Acute Tox. 4 H302	-

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

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General advice	Immediate medical attention is required.
Eye contact	Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediate medical attention is required.
Skin contact	Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.
Ingestion	Clean mouth with water and afterwards drink plenty of water.
Inhalation	Remove to fresh air and keep at rest in a position comfortable for breathing. Get medical attention immediately if symptoms occur. If not breathing, if breathing is irregular or if respiration arrest occurs, provide artificial respiration or oxygen by trained personnel.
Protection of first-aiders	Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist.

4.2. Most important symptoms and effects, both acute and delayed

Main symptoms Burning feeling and temporary redness, Rashes, Itching.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

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SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment. Use water spray, fog, Carbon dioxide (CO₂), foam or dry chemical.

Unsuitable Extinguishing Media None known based on information supplied.

5.2. Special hazards arising from the substance or mixture

Special Hazard Flammable liquid and vapour.

5.3. Advice for firefighters

Special protective equipment for fire-fighters As in any fire, wear self-contained breathing apparatus and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Avoid contact with skin, eyes and clothing. Do not breathe vapours, mist or gas.

6.2. Environmental precautions

Should not be released into the environment. Prevent further leakage or spillage if safe to do so.

6.3 Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

6.4. Reference to other sections

See sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling

No special requirements. Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Store in accordance with local regulations. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labelled containers. Keep away from open flames, hot surfaces and sources of ignition.

7.3. Specific end use(s)

Exposure scenario Not available.

Other information Not available.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

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Chemical Name	European Union	The United Kingdom	France	Spain	Germany
Alcohol		TWA: 1920 mg/m ³ STEL: 5760 mg/m ³	TWA: 1900 mg/m ³ STEL: 9500 mg/m ³	VLA-ED: 1910 mg/m ³	MAK: 960 mg/m ³ Ceiling / Peak: 1920 mg/m ³ S* TWA: 960 mg/m ³
Silane 2	TWA: 44 mg/m ³		TWA: 85 mg/m ³	VLA-EC; 260 mg/m ³ VLA-ED; 87 mg/m ³	TWA: 86 mg/m ³ Ceiling / Peak: 86 mg/m ³ TWA: 12 mg/m ³

Chemical Name	Italy	Portugal	Netherlands	Denmark	Poland
Alcohol		TWA: 1000 ppm	S* STEL: 1900 mg/m ³ TWA: 260 mg/m ³	TWA: 1900 mg/m ³	NDS: 1900 mg/m ³
Silane 2		TWA: 10 ppm		TWA: 10 ppm TWA: 85 mg/m ³	NDSch: 250 mg/m ³ NDS: 80 mg/m ³

Chemical Name	Belgium	Sweden	Hungary	Finland	Czech Republic
Alcohol	TWA: 1907 mg/m ³	TWA: 1000 mg/m ³ STV 1900 mg/m ³	TWA: 1900 mg/m ³ STEL: 6700 mg/m ³	TWA: 1900 mg/m ³ STEL: 2500 mg/m ³	
Silane 2	TWA: 86 mg/m ³			TWA: 86 mg/m ³ STEL: 170 mg/m ³	

Biological Limit Values Not established.

Recommended monitoring procedures Refer to European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) or equivalent national standard(s). Refer to European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) or equivalent national standard(s). Refer to European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) or equivalent national standard(s).

Derived No Effect Level (DNEL) No information available

Predicted No Effect Concentration (PNEC) No information available

8.2. Exposure controls

Appropriate engineering controls Ensure adequate ventilation, especially in confined areas, Showers, Eyewash stations.

Individual protection measures, such as personal protective equipment

Eye protection Tightly fitting safety goggles.
Hand Protection Protective gloves (EN 374).
Skin and body protection Long sleeved clothing.
Respiratory protection Wear respiratory protection.

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use.

Environmental Exposure Controls The product should not be allowed to enter drains, water courses or the soil.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Incompletely evaluated substances - For R&D purpose only - Not to be copied to third parties.

Physical state @20°C	Liquid
Appearance	Liquid
Colour	Colorless, Translucent
Odour	Characteristic
pH	6-8
Melting/freezing point	No information available
Boiling point/boiling range	78 – 290°C
Flash point	> 16°C (Abel Closed cup)
Evaporation rate	No information available
Flammability (solid, gas)	No information available
Flammability Limits in Air	No information available
Vapour pressure	No information available
Vapour density	No information available
Relative density	0.92 ± 0.03 (water = 1)
Solubility	
Water solubility	No information available
Partition Coefficient (n-octanol/water)	No information available
Autoignition temperature	363°C
Decomposition temperature	No information available
Viscosity, dynamic	No information available
Explosive properties	No information available
Oxidising properties	No information available

9.2 Other information

No information available

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity

No information available

10.2. Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Hazardous polymerisation does not occur

10.4. Conditions to avoid

Heat, flames and sparks. Exposure to air or moisture over prolonged periods.

10.5. Incompatible materials

Strong oxidising agents.

10.6. Hazardous decomposition products

Thermal decomposition can lead to release of irritating and toxic gases and vapours.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Acute toxicity	
Ingestion	No known effect.
Skin contact	No known effect.
Inhalation	No known effect.

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Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Alcohol	>2000 mg/kg (Rat)		>116.9 mg/L (Rat, male)
Silane 2	> 2500 mg/kg bw (Rat)		>10.0 mg/L (Rat, male)
Phosphate ester	1165 mg/kg (Rat)		

Skin corrosion/irritation	Causes severe skin burns and eye damage.
Serious eye damage/irritation	Causes severe damage to eyes.
Respiratory or skin sensitisation	May cause an allergic skin reaction.
Germ cell mutagenicity	Not known to cause heritable genetic damage
Carcinogenicity	Contains no ingredient listed as a carcinogen.
Reproductive toxicity	Not known to cause birth defects or have a deleterious effect on a developing fetus. Not known to adversely affect reproductive functions and organs.
STOT-single exposure	No known effect.
STOT-repeated exposure	No known effect
Aspiration hazard	No known effect.

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Harmful to aquatic life with long lasting effects.

Chemical Name	Toxicity to algae	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Alcohol		96h LC50 Oncorhynchus mykiss (static): 12.0-16.0 ml/l 96h LC50 Pimephales promelas (static): >100 mg/l 96h LC50 Pimephales promelas (flow-through): 13400-15100 mg/l	EC50: 34634 mg/l 30 min EC50: 35470 mg/l 5 min	48h LC50 Daphnia magna: 9268 - 14221 mg/l 24h EC50 Daphnia magna: 10800 mg/l 48h EC50 Daphnia magna (static): 2 mg/l
Silane 2	EC50: >22 mg/L (72h, Pseudokirchneriella subcapitata)	LC50: >245 mg/L (96h, Danio rerio, semi-static)	EC50: >100 mg/L (3h, activated sludge)	

12.2. Persistence and degradability

No information available.

12.3. Bioaccumulative potential

Chemical Name	Log P _{ow}	Bioconcentration factor (BCF)
Alcohol	-0.35	
Silane 2	3.18	
Phosphate ester	1.11	

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

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No information available.

12.6. Other adverse effects

No information available.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from residues / unused products Dispose of in accordance with local regulations.

Contaminated packaging Dispose of in accordance with local regulations. Empty containers should be taken to an approved waste handling site for recycling or disposal.

SECTION 14: TRANSPORT INFORMATION

According to: ADR, RID, ADN, IMDG, IATA/ICAO.

14.1. UN number

UN 2924

14.2. UN proper shipping name

Flammable liquid, corrosive, n.o.s

14.3. Transport hazard class(es)

Hazard class 3 (8)

14.4. Packing group

Packing Group II

14.5 Environmental hazards

Not applicable.

14.6 Special precautions for user

Not applicable.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

Not applicable.

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Restrictions on use This product is for research and development only.

Other Regulations No information available.

15.2 Chemical safety assessment

Not required.

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SECTION 16: OTHER INFORMATION

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

H225 - Highly flammable liquid and vapour
H226 - Flammable liquid and vapour
H302 - Harmful if swallowed
H314 - Causes severe skin burns and eye damage
H317 - May cause an allergic skin reaction
H319 - Causes serious eye irritation
H332 - Harmful if inhaled
H335 - May cause respiratory irritation
H412 - Harmful to aquatic life with long lasting effects

Revision Note

Not applicable.

Abbreviations and acronyms

ES: Exposure Scenario
EC: European Commission
REACH: Registration, Evaluation, Authorisation and Restriction of Chemical substances
LD50: Medial lethal dose
STOT: Specific Target Organ Toxicity
PBT: Persistent, Bioaccumulative, Toxic
vPvB: very Persistent and very Bioaccumulating
ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement concernant le transport international ferroviaire des marchandises dangereuses (Regulations for the International Transport of Dangerous Goods by Rail)
ADN: Accord européen relatif au transport international des marchandises Dangereuses par voies de Navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways)
IMDG: International Maritime Dangerous Goods Code
ICAO: International Civil Aviation Organization

SDS No.

AX00029

This safety data sheet complies with the requirements of: Regulation (EC) No. 1907/2006 and Regulation (EC) No. 1272/2008.

Disclaimer

The information provided in this 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.