Lembar Data Keselamatan

menurut Peraturan Menteri Perindustrian RI No. 87/M-IND/ PER/9/2009

Printing date 12.01.2024 Version number 4 Revision: 12.01.2024

1 Identifikasi Senyawa (Tunggal atau Campuran)

· **Product identifier**

· **Trade name: Ultimate Top Coat**
· **Registration number** Mixture
· **Relevant identified uses of the substance or mixture and uses advised against**
· **Product category** PC9a Coatings and paints, thinners, paint removers
· **Application of the substance / the mixture**
Coating
Surface treatment product.
· **Uses advised against**
Processes involving extreme heat use advised against.
Any use carrying a risk of direct contact with eyes/skin where workers are exposed without adequate personal protective equipment (PPE).
Any use involving aerosol formation or vapour release in excess of the assigned WEL where workers are exposed without suitable RPE.

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Coval Technologies
3 Fusionopolis Place
04-54 Galaxis Work Loft
Singapore 138523

Phone: +65 6568 3903

· **Further information obtainable from:** Product safety department.
· **Emergency telephone number:** Chemtrec APAC: +65 3163 8374

2 Identifikasi Bahaya

· **Classification of the substance or mixture**

flame

Flam. Liq. 2	H225 Highly flammable liquid and vapour.

Serious eye damage/irritation – Category 2A	H319 Causes serious eye irritation.
STOT SE 3	H336 May cause drowsiness or dizziness.

· **Label elements**
· **GHS label elements**
The product is classified and labelled according to the Globally Harmonised System (GHS).
· **Hazard pictograms** GHS02, GHS07
· **Signal word** Danger

· **Hazard-determining components of labelling:**
n-butyl acetate
methyl acetate

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· **Hazard statements**
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
· **Precautionary statements**
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Komposisi /Informasi tentang Bahan Penyusun Senyawa Tunggal

· **Chemical characterisation: Mixtures**
· **Description:** Mixture of substances listed below with nonhazardous additions.

· **Dangerous components:**			
123-86-4	n-butyl acetate	Flam. Liq. 3, H226; STOT SE 3, H336	25 – 50%
79-20-9	methyl acetate	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	25 – 50%
67-63-0	Isopropanol	Flam. Liq. 2, H225; Eye Irrit. 2, H319; STOT SE 3, H336	10%

4 Tindakan Pertolongan Pertama pada Kecelakaan

· **Description of first aid measures**
· **General information:** Immediately remove any clothing soiled by the product.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Immediately rinse with water.
If skin irritation continues, consult a doctor.
· **After eye contact:**
Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:**
Wash mouth out with water
Do not induce vomiting; call for medical help immediately.
If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
· **Information for doctor:** Treat symptomatically and supportively.
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Tindakan pemadaman kebakaran

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

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Use fire extinguishing methods suitable to surrounding conditions.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet
· **Special hazards arising from the substance or mixture**
Vapours are heavier than air and may travel a long distance and accumulate in low lying areas. Ignition and/or flash back may occur.
Flammable. Vapors may travel to source of ignition and flash back.
Formation of toxic gases is possible during heating or in case of fire.
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
Wear fully protective suit.
· **Additional information**
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Tindakan Penanggulangan jika terjadi Tumpahan dan Kebocoran

· **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation
Particular danger of slipping on leaked/spilled product.
Keep ignition sources away - no smoking.
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:**
Do not allow to penetrate the ground/soil.
Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up:**
Contain and collect spillage with non-combustible, absorbent material e.g.sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.
Ensure adequate ventilation.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Penanganan dan Penyimpanan

· **Handling:**
· **Precautions for safe handling**
Keep away from heat and direct sunlight.
Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product in the undiluted form.
Welding and other hot work operations in the work area must only be permitted under supervision.
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of aerosols.
Vapour is heavier than air. Beware of accumulation in pits and confined spaces.
· **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Keep respiratory protective device available.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Prevent any seepage into the ground.
Store in a cool location.

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· **Information about storage in one common storage facility:** Store away from oxidising agents.
· **Further information about storage conditions:**
Store in cool, dry conditions in well sealed receptacles.
Store in a bunded area.
Protect from heat and direct sunlight.
· **Storage class:** 3
· **Specific end use(s)** No further relevant information available.

8 Kontrol Paparan/ Perlindungan Diri

· **Additional information about design of technical facilities:** No further data; see section 7.

· **Control parameters**

· **Ingredients with limit values that require monitoring at the workplace:**	
123-86-4 n-butyl acetate	
NAB	Short-term value: 150 ppm Long-term value: 50 ppm
79-20-9 methyl acetate	
NAB	Short-term value: 250 ppm Long-term value: 200 ppm
67-63-0 Isopropanol	
NAB	Short-term value: 1230 mg/m³, 500 ppm Long-term value: 983 mg/m³, 400 ppm

· **Additional information:** The lists valid during the making were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Do not eat or drink while working.
Take note of assigned Workplace Exposure Limits.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Do not inhale gases / fumes / aerosols.
Ensure that eyewash stations and safety showers are close to the workstation location.
· **Respiratory protection:**
Use suitable respiratory protective device in case of insufficient ventilation.
Filter A for organic vapours
Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
· **Protection of hands:**

Protective gloves.
Use gloves tested and approved under appropriate government standards such as NIOSH (US) or EN374 (EU).

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

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· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Tightly sealed goggles conforming to EN166.

· **Body protection:**

Flame retardant antistatic protective clothing.

Body protection must be chosen depending on product properties, activity and possible exposure.
· **Limitation and supervision of exposure into the environment**
Do not let product enter drains. Risk of explosion.
· **Risk management measures** The operators shall be instructed adequately.

9 Sifat fisika dan kimia

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Fluid
Colour:	Clear
· **Odour:**	Solvent like
· **Odour threshold:**	Not determined.
· **pH-value:**	Not determined.
· **Change in condition**	
Melting point/freezing point:	Undetermined.
Initial boiling point and boiling range:	Undetermined.
· **Flash point:**	-10 °C
· **Flammability (solid, gas):**	Highly flammable.
· **Auto-ignition temperature:**	> 250 °C
· **Decomposition temperature:**	Not determined.
· **Ignition temperature:**	Product is not self-igniting.
· **Explosive properties:**	Product is not explosive. However, formation of explosive air/ vapour mixtures are possible.
· **Explosion limits:**	
Lower:	1.2 Vol %
Upper:	16 Vol %
· **Vapour pressure at 20 °C:**	220 hPa
· **Density:**	Not determined.
· **Relative density**	Not determined.
· **Vapour density**	Not determined.
· **Evaporation rate**	Not determined.
· **Solubility in / Miscibility with water:**	Fully miscible.

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· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not determined.
Kinematic:	Not determined.
· **Solvent content:**	
VOC (EC)	76.00 %
· **Other information**	NOTE: The physical data presented above are typical values and should not be construed as a specification.

10 Stabilitas dan Reaktifitas

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
At elevated temperatures, explosive vapour/air mixtures may be formed.
· **Possibility of hazardous reactions**
Can form explosive mixtures in air if heated above flash point and/or when sprayed or atomised.
· **Conditions to avoid** Heat and static discharge.
· **Incompatible materials:** Strong oxidising agents.
· **Hazardous decomposition products:**
Carbon monoxide and carbon dioxide
Metal oxide

11 Informasi Toksikologi

· **Information on toxicological effects**
· **Acute toxicity**

· **LD/LC50 values relevant for classification:**		
ATE (Acute Toxicity Estimates)		
Oral	LD50	> 3,215.7 mg/kg
Inhalative	LC50/4 h	> 58.333 mg/l (rat)

123-86-4 n-butyl acetate		
Oral	LD50	> 2,000 mg/kg (rat)
Dermal	LD50	> 5,000 mg/kg (rabbit)
Inhalative	LC50/4 h	> 21 mg/l (rat)
79-20-9 methyl acetate		
Oral	LD50	3,705 mg/kg (rabbit)
67-63-0 Isopropanol		
Oral	LD50	> 2,000 mg/kg (rat)

· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Irritating effect.
· **Respiratory or skin sensitisation**
No sensitising effects known.
Based on available data, the classification criteria are not met.
· **Subacute to chronic toxicity:** Prolonged or repeated skin contact may irritate and cause dermatitis.
· **Additional toxicological information:**
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

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Irritant
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
· **STOT-single exposure** May cause drowsiness or dizziness.
· **STOT-repeated exposure** Based on available data, the classification criteria are not met.
· **Aspiration hazard** Based on available data, the classification criteria are not met.

12 Informasi Ekologi

· **Toxicity**

· **Aquatic toxicity:**	
123-86-4 n-butyl acetate	
EC50 (96 h)	44 mg/l (Bacteria)
67-63-0 Isopropanol	
EC50 (96 h)	> 10,000 mg/l (Bacteria)

· **Persistence and degradability** The organic portion of the product is biodegradable.
· **Behaviour in environmental systems:**
· **Bioaccumulative potential** Product is not expected to bioaccumulate.
· **Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Pembuangan Limbah

· **Waste treatment methods**
· **Recommendation**
Recommended Hierarchy of Controls:
- Minimise waste;
- Reuse if not contaminated;
- Recycle, if possible; or
- Safe disposal (if all else fails).

Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Contact waste processors for recycling information.
Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

· **Uncleaned packaging:**
· **Recommendation:**
Empty contaminated packagings thoroughly. They may be recycled after thorough and proper cleaning.
Do not mix with other waste streams.
Container remains hazardous when empty. Continue to observe all precautions.
Disposal must be made according to official regulations.
Containers, even those that are “empty,” may contain residues that can develop flammable and/or hazardous vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

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· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

14 Informasi Transpor/Pengangkutan

· **UN-Number**	
· **ADR/RID/ADN, IMDG, IATA**	UN1139
· **UN proper shipping name**	
· **ADR/RID/ADN**	UN1139 COATING SOLUTION, special provision 640D
· **IMDG, IATA**	COATING SOLUTION
· **Transport hazard class(es)**	
· **ADR/RID/ADN, IMDG, IATA**	
· **Class**	3 Flammable liquids.
· **Label**	3
· **Packing group**	
· **ADR/RID/ADN, IMDG, IATA**	II
· **Environmental hazards:**	Not applicable.
· **Special precautions for user**	Warning: Flammable liquids.
· **Hazard identification number (Kemler code):**	33
· **EMS Number:**	F-E,S-E
· **Stowage Category**	B
· **Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADR/RID/ADN**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **Transport category**	2
· **Tunnel restriction code**	D/E
· **IMDG**	
· **Limited quantities (LQ)**	5L
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· **UN "Model Regulation":**	UN 1139 COATING SOLUTION, 3, II

15 Informasi yang Berkaitan dengan Regulasi

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
· **GHS label elements**
The product is classified and labelled according to the Globally Harmonised System (GHS).
· **Hazard pictograms** GHS02, GHS07

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· **Signal word** Danger

· **Hazard-determining components of labelling:**
n-butyl acetate
methyl acetate
· **Hazard statements**
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
· **Precautionary statements**
P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.
P241 Use explosion-proof electrical/ventilating/lighting equipment.
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P405 Store locked up.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** None of the ingredients is listed.
· **Seveso category** P5c
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 5,000 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 50,000 t

· **National regulations:**

· **Information about limitation of use:**

Class	Share in %
NK	76.0

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

16 Informasi Lain

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Product safety department.
· **Contact:**
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
VOC: Volatile Organic Compounds (USA, EU)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Flam. Liq. 2: Flammable liquids – Category 2
Flam. Liq. 3: Flammable liquids – Category 3
Eye Irrit. 2: Serious eye damage/eye irritation – Category 2
Serious eye damage/irritation – Category 2A: Serious eye damage/eye irritation – Category 2A
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3