1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME : IGL Coatings™ ecocoat armor AR1
FUNCTION : Protective coating for truck beds
COMPANY : Ominent Sdn Bhd
ADDRESS : No.7, Jalan Majistret U1/26, Hicom-Glenmarie Industrial Park, Seksyen U1, 40150 Shah Alam, Selangor.
PHONE : +60355690980
EMAIL ADDRESS : regulations@iglcoatings.com

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Physical hazards

Flammable liquid	Category 3

Health hazards

Skin Corrosion/ Irritation	Category 2
Reproductive toxicity	Category 2
Specific target organ toxicity – single exposure	Category 3

2.2 Label Elements

Regulation (EC) No. 1272/2008


GHS02


GHS08

Signal word

Warning

Hazard statements

H226	Flammable liquid and vapour
H315	Causes skin irritation.
H336	May cause drowsiness and dizziness (narcotic effects)
H361	Suspected of damaging fertility or the unborn child

Precautionary statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P261	Avoid breathing dust/fume/ gas/mist/vapours/spray.
P264	Wash hand thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Remove 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.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P321	Specific treatment (see Section 4).
P332+P313	If skin irritation occurs: Get medical attention.
P362	Take off contaminated clothing and wash before reuse.
P370+P378	In case of fire: use foam/dry chemical/carbon dioxide to extinguish.
P403+P233+P235	Store in a well-ventilated place. Keep container tightly closed and keep cool.
P405	Store locked up.
P501	Dispose of contents/container to comply with local, state and federal regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No.	Chemical Name			Quantity
	EC No.	Index No.	REACH No.	
	Classification according to Regulation (EC) No. 1272/2008 (CLP)			
9011-14-7	Poly(methyl methacrylate)			30-60%
	618-466-4	Not applicable	Not applicable	
	Not applicable			
123-86-4	Butyl acetate			10-30%
	204-658-1	Not applicable	01-2119485493-29-0000	
	Flam Liq. 3: H226; STOT SE 3: H336;			
1330-20-7	Xylene			10-20%
	215-535-7	Not applicable	01-2119488216-32-0019	
	Flam Liq. 3: H226; Acute Tox. 4: H312+H332; Skin Irr. 2: H315			
100-41-4	Ethylbenzene			3-10%
	202-849-4	Not applicable	01-2119892111-44-0000	
	Flam. Liq 2: H225; Acute Tox. 4: H332; Asp. Tox. 1: H304; STOT RE 2: H373			
141-78-6	Ethyl acetate			3-10%
	205-500-4	Not applicable	01-2119475103-46-0000	
	Flam. Liq 2: H225; Eye Irr. 2: H319; STOT SE 3: H336			
7631-86-9	Silicon dioxide			3-10%
	231-545-4	Not applicable	Not applicable	
	Not applicable			
25777-71-3	Copolymer of Methyl methacrylate and Ethyleneglycol dimethacrylate			3-10%
	Not applicable	Not applicable	Not applicable	
	Not applicable			
108-88-3	Toluene			0.1-1%
	203-625-9	Not applicable	Not applicable	
	Flam. Liq. 2; H225, Acute Tox. 5 (Inhalation); H333, Skin Irrit. 2; H315, Repr. 2; H361d, STOT SE 3; H336, STOT RE 2; H373, Asp. Tox. 1; H304			

4. FIRST AID MEASURES

4.1 Description of first aid measures

General Information

Take off contaminated clothing immediately**.**

After Inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

After skin contact
Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.
After contact with eyes
Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do.
In case of troubles or persistent symptoms, consult an ophthalmologist.
After ingestion
Do NOT induce vomiting. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed
Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

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

5. FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media
Water spray, water mist, powder, foam, carbon dioxide.

5.2 Unsuitable extinguishing media
High volume water jet.

5.3 Special hazards arising from the substance or mixture
Flammable liquid. Vapours are heavier than air and may spread along floors.
Vapours may form explosive mixtures with air.
Thermal decomposition into harmful products.
Irritating or toxic vapours.
Formation of toxic products through combustion: Carbon oxides.

5.4 Advise for firefighters
Wear self-contained breathing apparatus for firefighting.
In the event of fire and/or explosion, do not breathe fumes. Use water spray to cool unopened containers. Do not allow run-off from firefighting to enter drains or water courses.

5.5 Unusual Fire Hazards:
Not known.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear personal protection equipment (Refer to section 8).
Ensure adequate ventilation. Avoid contact with skin and eyes. Avoid inhalation of vapours. In case of insufficient ventilation, wear suitable respiratory equipment.

6.2 Environmental precautions
Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up
Shovel into suitable container for disposal. Never return spills in original containers for re-use. Absorb the remainder with an inert absorbent material (sand, vermiculite, perlite). No sparking tools should be used.

6.4 Reference to other sections
Safe handling: Refer to section 7
Personal protection equipment: Refer to section 8
Disposal: Refer to section 13

7. HANDLING AND STORAGE

7.1 Precautions for safe handling
Advice on safe handling
Do not inhale gases/vapours/aerosols.
Avoid contact with eyes and skin.
Use with adequate ventilation.
Advice on protection against fire and explosion
Prohibit all sources of sparks and ignition – Do not smoke. Take precautionary measures against static discharges.

Further information on handling
General protection and hygiene measures: Refer to section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep tightly closed in a dry, cool and well-ventilated place. Store in original container. Store away from heat and ignition sources. Keep away from direct sunlight.

Advice on storage compatibility
Do not store together with food and feeding stuffs.

Further information on storage conditions
Keep the packing dry and well-sealed to prevent contamination.
Recommended storage temperature: 20-25°C.

7.3 Specific end use(s): Refer to section 1.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

Component	Value type (Form of exposure)	Control parameter	Basis
Butyl acetate	TWA	150 ppm 713 mg/m^3	MY OEL
	TWA	150 ppm	ACGIH
	STEL	200 ppm	ACGIH
Xylene	TWA	100 ppm 434 mg/m^3	MY OEL
	TWA	100 ppm	ACGIH
	STEL	150 ppm	ACGIH
Ethylbenzene	TWA	100 ppm 434 mg/m^3	MY OEL
	TWA	20 ppm	ACGIH
Ethyl acetate	TWA	400 ppm	ACGIH
	PEL	400 ppm, 1400 mg/m^3	OSHA
Toluene	LTEL	50.0 ppm, 192 mg/m^3	ECHA
	STEL	100 ppm, 384 mg/m^3	ECHA

8.2 Exposure Control

8.2.1 General protective and hygienic measures:
Wash hands before breaks and at the end of work. Ensure adequate ventilation.

8.2.2 Personal protective equipment:

Respiratory protection:
In case of insufficient ventilation, wear suitable respiratory equipment.
In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Protection of hands:
Splashes:
PVA Glove thickness: 0.2 - 0.3 mm
According to permeation index EN 374: 6 (time elapsed > 480 mins)
Gloves nitrile rubber Glove thickness: 0.38 mm
According to permeation index EN 374: 2 (time elapsed > 30 mins)
Prolonged contact:
Viton (R) Glove thickness: 0.7 mm
According to permeation index EN 374: 6 (time elapsed > 480 mins)
Polyethylene Glove thickness: 0.062 mm
According to permeation index EN 374: 6 (time elapsed > 480 mins) PE gloves being not ergonomic and not mechanically resistant, have to be used under other gloves offering a good grip and mechanical resistance.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time., Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough.
Eye protection: Safety goggles with side shield.
Skin and body protection: Protective suit.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (colour)	: Grey	
Appearance (form)	: Paste-like	
Odour	: Solvent-like	
Melting Point	: No data available	
Boiling Point	: 138 - 145°C	[Xylene]
Flash Point	: 28 °C	
Evaporation Rate	: No data available.	
Vapour Pressure	: No data available	
Vapor Density	: No data available	
Density	: 0.996 g/cm^3	
pH	: No data available	
Water solubility	: Insoluble	
Viscosity	: 2600 – 3200 cp	

10. STABILITY AND REACTIVITY

10.1 Reactivity: No data available.
10.2 Chemical stability: No data available.
10.3 Possibility of hazardous reactions: None under normal condition of use.
10.4 Conditions to avoid: Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.
10.5 Incompatible materials: No data available.
10.6 Hazardous decomposition products:
Thermal decomposition into harmful products.
Irritating or toxic vapors.
Formation of toxic products through combustion: Carbon oxides, styrene.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Exposure route	Endpoint	Value	Species
Oral	LD50	>10000 mg/kg	Rat
Inhalation	LC50	56.41 mg/L	Rat
Dermal	LD50	7285 mg/kg	Rabbit

Skin corrosion/irritation: May cause skin irritation.
Eye irritation: No information available.
Respiratory or skin sensitization: No information available.
Summary of evaluation of the CMR properties: Shall not be classified as a germ cell mutagenic, carcinogenic nor as a reproductive toxicant.
Specific target organ toxicity – single exposure: May cause drowsiness and dizziness (narcotic effects).
Specific target organ toxicity – repeated exposure: No information available.
Aspiration hazard: No information available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity
Specified substance: Butyl acetate

Endpoint	Value	Species	Exposure time	Sources
LC50	18 mg/L	Freshwater fish	96 hours	ECHA
EC50/LC50	32 – 44 mg/L	Aquatic invertebrates	48 hours	ECHA
NOEC	23 mg/L	Aquatic invertebrates	21 days	ECHA
EC50	397 – 674.7 mg/L	Freshwater algae	48 hours	ECHA

Specified substance: Xylene

Endpoint	Value	Species	Exposure time	Sources
LC50	2.6 mg/L	Freshwater fish	96 hours	ECHA
NOEC	1.3 mg/L	Freshwater fish	56 days	ECHA
LC50	1 mg/L	Freshwater invertebrates	24 hours	ECHA
NOEC	960 µg/L	Freshwater invertebrates	7 days	ECHA
EC50	1.3 mg/L	Freshwater algae	73 hours	ECHA

Specified substance: Ethylbenzene

Endpoint	Value	Species	Exposure time	Sources
LC50	4.2 mg/L	Freshwater fish	96 hours	ECHA
EC50	1.8 mg/L	Freshwater invertebrates	48 hours	ECHA
NOEC	1 mg/L	Freshwater invertebrates	7 days	ECHA
NOEC	960 µg/L	Freshwater invertebrates	7 days	ECHA
EC50	3.6 mg/L	Freshwater algae	4 days	ECHA

Specified substance: Ethyl acetate

Endpoint	Value	Species	Exposure time	Sources
LC50	230 mg/L	Freshwater fish	96 hours	ECHA
NOEC	6.9 mg/L	Freshwater fish	32 days	ECHA
EC50/LC50	165 3090 mg/L	Fresh water invertebrates	24 hours	ECHA
NOEC	2.4 mg/L	Freshwater invertebrates	21 days	ECHA
EC50	5.6 g/L	Freshwater algae	48 hours	ECHA

Specified substance: Toluene

Endpoint	Value	Species	Exposure time	Sources
EC50	134 mg/L	Freshwater algae	3 hours	ECHA
EC50	84 mg/L	Microorganisms	24 hours	ECHA

12.2 Process of degradability
No data available.
12.3 Bioaccumulative potential
No data available.
12.4 Mobility in soil
No data available.
12.5 Results of PBT and vPvB Assessment
No data available.
12.6 Other adverse effects
No data available.

13. DISPOSAL CONSIDERATION

13.1 Waste treatment methods

Disposal of product: The product should not be allowed to enter drains, water courses or the soil. Dispose of contents/container to an approved waste disposal plant. In accordance with local and national regulations.

Disposal of packaging: Recycle if possible. Disposal of packaging shall be consistent with regulations.

13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

14. TRANSPORT INFORMATION

14.1 IATA-DGR

UN number	: 1263
UN proper shipping name	: Paint-related materials
Transport hazard class(es)	: 3
Packing group	: III
Environmental hazards	: No
Special precautions for user	: -

14.2 IMDG-Code

UN number	: 1263
UN proper shipping name	: Paint-related materials
Transport hazard class(es)	: 3
Packing group	: III
Environmental hazards	: No
Marine pollutant	: No

15. REGULATORY INFORMATION

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

US Federal Regulations

US. Toxic Substances Control Act (TSCA)

All chemical substances in this material are included on the TSCA Inventory of Chemical Substances.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Hazardous Substance List

This product contains the following substance subject to the CERCLA Hazardous Substance List

Component	CAS No.
Xylene	1330-20-7
Ethylbenzene	100-41-4
Butyl acetate	123-86-4
Ethyl acetate	141-78-6
Toluene	108-88-3

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Emergency Planning and Community Right-To-Know Act (EPCRA) Section 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

Emergency Planning and Community Right-To-Know Act (EPCRA) Section 313 Toxics Release Inventory (TRI) Reporting

This product contains the following substance subject to the reporting requirements of EPCRA Section 313

Component	CAS No.
Xylene	1330-20-7

Ethylbenzene	100-41-4
Toluene	108-88-3

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CRF 68.130)
None present or none present in regulated quantities.

US. State Regulation

US. California Proposition 65

Warning: This product can expose you to chemicals including, Ethylbenzene, which is known to the State of California to cause cancer & Toluene which causes reproductive toxicity (Developmental toxicity).

EU Regulation

EU. Directive 2012/18/EU (SEVESO III) on Major Accident Hazards Involving Dangerous Substances, Annex I:
Not applicable.

15.2 Chemical safety assessment
Chemical safety assessments for substances in this mixture were not carried out.

16. OTHER INFORMATION

Further information
Changes since the last version are highlighted in the margin. This version replaces all previous versions.
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 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 use in combination with any other materials or any process, unless specified in the test.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME : IGL Coatings™ ecocoat armor AR2
FUNCTION : Colorant for Ecocoat Armor
COMPANY : Ominent Sdn Bhd
ADDRESS : No.7, Jalan Majistret U1/26, Hicom-Glenmarie Industrial Park, Seksyen U1, 40150 Shah Alam, Selangor.
PHONE : +60355690980
EMAIL ADDRESS : regulations@iglcoatings.com

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Physical hazards

Flammable liquid	Category 3

Health hazards

Acute Toxicity (Dermal)	Category 5
Skin corrosion/irritation	Category 2
Serious eye irritation	Category 2
Germ Cell Mutagenicity	Category 1B
Carcinogenicity	Category 1B

2.2 Label Elements

Regulation (EC) No. 1272/2008


GHS02


GHS08

Signal word

Danger

Hazard statements

H226	Flammable liquid and vapour
H313	May be harmful if in contact with skin
H315	Causes skin irritation.
H319	Causes serious eye irritation
H340	May cause genetic defects
H350	May cause cancer

Precautionary statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood
P210	Keep away from heat/sparks/open flames/hot surfaces – No smoking.
P233	Keep container tightly closed.
P240	Ground/bond container and receiving equipment.
P241	Use explosion-proof equipment.
P242	Use only non-sparking tools.
P243	Take precautionary measures against static discharge.
P264	Wash hand thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353	IF ON SKIN (or hair): Remove 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.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P321	Specific treatment (see Section 4).
P332+P313	If skin irritation occurs: Get medical attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P362	Take off contaminated clothing and wash before reuse.
P370+P378	In case of fire: use foam/dry chemical/carbon dioxide to extinguish.
P403+P233+P235	Store in a well-ventilated place. Keep container tightly closed and keep cool.
P405	Store locked up.
P501	Dispose of contents/container to comply with local, state and federal regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No.	Chemical Name			Quantity
	EC No.	Index No.	REACH No.	
	Classification according to Regulation (EC) No. 1272/2008 (CLP)			
9011-14-7	Poly(methyl methacrylate)			30-60%
	618-466-4	Not applicable	Not applicable	
	Not applicable			
1330-20-7	Xylene			10-30%
	215-535-7	Not applicable	01-2119488216-32-0019	
	Flam Liq. 3: H226; Acute Tox. 4: H312+H332; Skin Irr. 2: H315			
108-65-6	2-methoxy-methylethyl acetate			10-20%
	203-603-9	Not applicable	01-2119475791-29-0000	
	Eye Irr. 2: H319			
64742-95-6	Solvent naphtha (petroleum), light aromatic			5-10%
	265-199-0	Not applicable	01-2119486773-24-0000	
	Asp. Tox. 1: H304; Muta 1B: H340; Carc. 1B: H350			
1333-86-4	Carbon Black			5-10%
	215-609-9	Not applicable	Not applicable	
	Not applicable			
763-69-9	Ethyl 3-ethoxypropionate			1-3%
	212-112-9	Not applicable	01-2119463267-34-0000	
	Flam. Liq. 3: H226			
123-86-4	Butyl acetate			1-3%
	204-658-1	Not applicable	01-2119485493-29-0000	
	Flam Liq. 3: H226; STOT SE 3: H336;			

4. FIRST AID MEASURES

4.1 Description of first aid measures

General Information

Take off contaminated clothing immediately**.**

After Inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

After skin contact

Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.

After contact with eyes

Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if presence and easy to do.
In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Do NOT induce vomiting. Call a physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media

Foam, carbon dioxide and powder

5.2 Unsuitable extinguishing media

High volume water jet.

5.3 Special hazards arising from the substance or mixture

Flammable liquid. Vapours are heavier than air and may spread along floors.
Vapours may form explosive mixtures with air.
Thermal decomposition into harmful products.
Irritating or toxic vapours.

5.4 Advise for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.
In the event of fire and/or explosion do not breathe fumes. Use water spray to cool unopened containers. Do not allow run-off from firefighting to enter drains or water courses.

5.5 Unusual Fire Hazards:

Not known.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment (Refer to section 8).
Ensure adequate ventilation. Avoid contact with skin and eyes. Avoid inhalation of vapours. In case of insufficient ventilation, wear suitable respiratory equipment.

6.2 Environmental precautions

Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Shovel into suitable container for disposal. Never return spills in original containers for re-use. Absorb the remainder with an inert absorbent material (sand, vermiculite, perlite). No sparking tools should be used.

6.4 Reference to other sections

Safe handling: Refer to section 7
Personal protection equipment: Refer to section 8
Disposal: Refer to section 13

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling

Do not inhale gases/vapours/aerosols.
Avoid contact with eyes and skin.
Use with adequate ventilation.

Advice on protection against fire and explosion

Prohibit all sources of sparks and ignition – Do not smoke. Take precautionary measures against static discharges.

Further information on handling

General protection and hygiene measures: Refer to section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep tightly closed in a dry, cool and well-ventilated place. Store in original container. Store away from heat and ignition sources. Keep away from direct sunlight.

Advice on storage compatibility

Do not store together with food and feeding stuffs.

Further information on storage conditions

Keep the packing dry and well-sealed to prevent contamination.

Recommended storage temperature: 20-25°C.

7.3 Specific end use(s): Refer to section 1.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

Component	Value type (Form of exposure)	Control parameter	Basis
Xylene	TWA	100 ppm 434 mg/m^3	MY OEL
	TWA	100 ppm	ACGIH
	STEL	150 ppm	ACGIH
Butyl acetate	TWA	150 ppm 713 mg/m^3	MY OEL
	TWA	150 ppm	ACGIH
	STEL	200 ppm	ACGIH

8.2 Exposure Control

8.2.1 General protective and hygienic measures:

Wash hands before breaks and at the end of work. Ensure adequate ventilation.

8.2.2 Personal protective equipment:

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment.

In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Protection of hands:

Wear PVC, nitrile or polyurethane gloves for protection.

Eye protection: Safety goggles with side shield.

Skin and body protection: Wear suitable protective clothing. Remove contaminated clothing to avoid skin contact.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (colour)	: Black
Appearance (form)	: Paste
Odour	: Solvent-like
Melting Point	: No data available
Boiling Point	: 138 - 145°C
Flash Point	: 26 °C
Specific gravity	: 1.02 ± 0.02
Evaporation Rate	: No data available.
Vapour Pressure	: No data available
Vapor Density	: No data available
pH	: No data available
Water solubility	: Insoluble in water
Viscosity	: 800 mPa.s (at 25°C)

10. STABILITY AND REACTIVITY

10.1 Reactivity: No data available.

10.2 Chemical stability: No data available.

10.3 Possibility of hazardous reactions: None under normal condition of use.
10.4 Conditions to avoid: No data available.
10.5 Incompatible materials: Strong oxidising agents, strong acid, strong alkaline.
10.6 Hazardous decomposition products: Burning will produce smoke containing carbon monoxide, carbon dioxide and other noxious fumes.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects
Skin corrosion/irritation: May cause skin irritation.
Eye irritation: May causes eye irritation.
Respiratory or skin sensitization: May causes respiratory irritation.
Summary of evaluation of the CMR properties: Shall not be classified as a germ cell mutagenic, carcinogenic nor as a reproductive toxicant.
Specific target organ toxicity – single exposure: No information available.
Specific target organ toxicity – repeated exposure: No information available.
Aspiration hazard: No information available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Specified substance: Xylene

Endpoint	Value	Species	Exposure time	Sources
LC50	2.6 mg/L	Freshwater fish	96 hours	ECHA
NOEC	1.3 mg/L	Freshwater fish	56 days	ECHA
LC50	1 mg/L	Freshwater invertebrates	24 hours	ECHA
NOEC	960 µg/L	Freshwater invertebrates	7 days	ECHA
EC50	1.3 mg/L	Freshwater algae	73 hours	ECHA

Specified substance: Butyl acetate

Endpoint	Value	Species	Exposure time	Sources
LC50	18 mg/L	Freshwater fish	96 hours	ECHA
EC50/LC50	32 – 44 mg/L	Aquatic invertebrates	48 hours	ECHA
NOEC	23 mg/L	Aquatic invertebrates	21 days	ECHA
EC50	397 – 674.7 mg/L	Freshwater algae	48 hours	ECHA

12.2 Process of degradability
No data available.
12.3 Bioaccumulative potential
No data available.
12.4 Mobility in soil
No data available.
12.5 Results of PBT and vPvB Assessment
No data available.
12.6 Other adverse effects
No data available.

13. DISPOSAL CONSIDERATION

13.1 Waste treatment methods
Disposal must be in accordance to current national and local regulations.
Appropriate disposal is by incineration.
13.2 Relevant provisions relating to waste

The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.

13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

14. TRANSPORT INFORMATION

14.1 IATA-DGR

UN number	: 1263
UN proper shipping name	: Paint-related materials
Transport hazard class(es)	: 3
Packing group	: III
Environmental hazards	: No
Special precautions for user	: -
Remarks	: -

14.2 IMDG-Code

UN number	: 1263
UN proper shipping name	: Paint-related materials
Transport hazard class(es)	: 3
Packing group	: III
Environmental hazards	: No
Marine pollutant	: No

15. REGULATORY INFORMATION

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

US Federal Regulations

US. Toxic Substances Control Act (TSCA)

All chemical substances in this material are included on the TSCA Inventory of Chemical Substances.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Hazardous Substance List

This product contains the following substance subject to the CERCLA Hazardous Substance List

Component	CAS No.
Xylene	1330-20-7
Butyl acetate	123-86-4

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Emergency Planning and Community Right-To-Know Act (EPCRA) Section 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

Emergency Planning and Community Right-To-Know Act (EPCRA) Section 313 Toxics Release Inventory (TRI) Reporting

This product contains the following substance subject to the reporting requirements of EPCRA Section 313

Component	CAS No.
Xylene	1330-20-7

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CRF 68.130)

None present or none present in regulated quantities.

US. State Regulation

US. California Proposition 65

None present or none present in regulated quantities.

EU Regulation

EU. Directive 2012/18/EU (SEVESO III) on Major Accident Hazards Involving Dangerous Substances, Annex I:

Not applicable.

15.2 Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

16. OTHER INFORMATION

Further information

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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 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 use in combination with any other materials or any process, unless specified in the test.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME : IGL Coatings™ ecocoat armor AR3
FUNCTION : Crosslinking agent for ecocoat armor
COMPANY : Ominent Sdn Bhd
ADDRESS : No.7, Jalan Majistret U1/26, Hicom-Glenmarie Industrial Park, Seksyen U1, 40150 Shah Alam, Selangor.
PHONE : +60355690980
EMAIL ADDRESS : regulations@iglcoatings.com

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Health hazards

Acute Toxicity - Inhalation	Category 4
Skin sensitizer	Category 1
Specific target organ toxicity - single exposure	Category 3

2.2 Label Elements

Regulation (EC) No. 1272/2008

GHS07

Signal word

Warning

Hazard statements

H317	May cause an allergic skin reaction.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Precautionary statements

P261	Avoid breathing mist/vapours/spray.
P271	Use only in outdoors or in a well-ventilated area.
P272	Contaminated clothing should not be allowed out of the work place.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER/doctor if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P501	Dispose of contents/container to comply with local, state and federal regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No.	Chemical Name			Quantity
	EC No.	Index No.	REACH No.	
	Classification according to Regulation (EC) No. 1272/2008 (CLP)			
28182-81-2	Hexamethylene diisocyanate oligomer			90-100%
	500-060-2	Not applicable	Not applicable	
	Acute Tox. 4: H332; Skin Sens. 1: H317; STOT SE 3: H335			

4. FIRST AID MEASURES

4.1 Description of first aid measures

General Information

Take off contaminated clothing immediately**.**

After Inhalation

Move to an area free from further exposure. Extreme asthmatic reactions that may occur in sensitized persons can be life threatening. Get medical attention immediately. Administer oxygen or artificial respiration as needed. Asthmatic symptoms may develop and may be immediate or delayed up to several hours.

After skin contact

If direct skin contact with isocyanates occurs, immediately remove contaminated clothing and shoes. Wipe off the isocyanate product from the skin using dry towels or other similar absorbent fabric. If readily available, apply a polyglycol-based cleanser (e.g. SKC, Inc. (SKC) D-TAM™ Skin Cleanser) or corn oil. Wash with soap and warm water and pat dry. If a polyglycol-based cleanser is not available, wash with soap and warm water for 15 minutes. If available, use a wipe test pad to verify decontamination is complete (e.g. SKC SWYPE™). Get medical attention if irritation develops. Discard or wash contaminated clothing before reuse.

After contact with eyes

Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if presence and easy to do.
In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Do NOT induce vomiting. Wash out mouth with water provided the person is conscious. Medical advice is required.

4.2 Most important symptoms and effects, both acute and delayed

Acute: Isocyanate vapors or mist at concentrations above the exposure limits or guidelines can irritate (burning sensation) the mucous membranes in the respiratory tract (nose, throat, lungs) with symptoms of runny nose, sore throat, coughing, chest discomfort, shortness of breath and reduced lung function (breathing difficulty). Persons with a preexisting, nonspecific bronchial hyperreactivity can respond to concentrations below the exposure limits or guidelines with similar symptoms as well as asthma attack or asthma-like symptoms. Exposure well above the exposure limits or guidelines may lead to bronchitis, bronchial spasm and pulmonary edema (fluid in lungs). Chemical or hypersensitivity pneumonitis, with flu-like symptoms (e.g. fever, chills), has also been reported. These symptoms can be delayed up to several hours after exposure. These effects are usually reversible.

May cause skin irritation with symptoms of reddening, itching, and swelling. Can cause sensitization. Persons previously sensitized can experience allergic skin reaction with symptoms of reddening, itching, swelling, and rash. Cured material is difficult to remove.

May cause eye irritation with symptoms of reddening, tearing, stinging, and swelling. May cause temporary corneal injury. Vapor or aerosol may cause irritation with symptoms of burning and tearing.

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

5. FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media

Carbon dioxide, foam, extinguishing powder, in cases of larger fires, water spray should be used.

5.2 Unsuitable extinguishing media

High volume water jet.

5.3 Special hazards arising from the substance or mixture

Burning releases carbon monoxides, carbon dioxides, nitrogen oxides (NOx), isocyanate vapors and trace of hydrogen cyanide. In the event of fire and/or explosion, do not breathe fumes.

Fire in vicinity poses risk of pressure build-up and rupture. Containers at risk from fire should be cooled with water and, if possible, removed from the danger area.

5.4 Special fire-fighting procedures

Firefighters should wear NFPA compliant structural firefighting protective equipment, including self-contained breathing apparatus and NFPA compliant helmet, hood, boots and gloves. Avoid contact with product. Decontaminate equipment and protective clothing prior to reuse. During a fire, isocyanate vapors and other irritating, highly toxic gases may be generated by thermal decomposition or combustion. Exposure to heated diisocyanate can be extremely dangerous

5.5 Special protective equipment for fire-fighters

Not known.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
Wear personal protection equipment (Refer to section 8).
Keep away from sources of ignition. Ensure adequate ventilation.
Keep unauthorized persons away.

6.2 Environmental precautions
Do not allow entrance in sewage water, soil stretches of water, groundwater, drainage systems.

6.3 Methods and material for containment and cleaning up
Remove mechanically; cover the remainder with wet absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). After approx. one hour, transfer to waste container and do not seal (evolution of CO_2). Keep damp in a safe ventilated area for several days.
Spill area can be decontaminated with the following recommended decontamination solution:
Decontamination solution:
·A mixture of 90% water, 10% non-ionic surfactant (e.g. Plurafac SL-62, Tergitol TMN-10)
·A mixture of 75% water, 20% non-ionic surfactant, and 5% n-propanol
·A mixture of 80% water, 10% non-ionic surfactant, 5% isopropanol, 5% ammonium hydroxide (household ammonia)

6.4 Reference to other sections
Safe handling: Refer to section 7
Personal protection equipment: Refer to section 8
Disposal: Refer to section 13

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling
Wear personal protection equipment (Refer to section 8).
Avoid contact with eyes and skin. Use with adequate ventilation.
This material can produce asthmatic sensitization upon either single inhalation exposure to a relatively high concentration or upon repeated inhalation exposures to lower concentrations.
No smoking. Keep away from foodstuffs, drinks and tobacco.
Wash hand before breaks and at the end of work.

Further information on handling
General protection and hygiene measures: Refer to section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels
Keep container tightly closed in a cool, well-ventilated place.
Protect against moisture.

Advice on storage compatibility
Do not store together with food and feeding stuffs.

Further information on storage conditions
Recommended storage temperature:
Minimum: -34 °C (-29.2 °F)
Maximum: 50 °C (122 °F)

7.3 Specific end use(s): Refer to section 1.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

Occupational Exposure Limits:

Ingredients with limit values that require monitoring at the workplace:

Component	Value type (Form of exposure)	Control parameter	Basis
Hexamethylene diisocyanate oligomer	TWA	0.5 mg/m^3	Covestro
	STEL	1.0 mg/m^3	Covestro

Hexamethylene-1,6-Diisocyanate (822-06-0)	TWA	0.005 ppm	US ACGIH

8.2 Exposure Control

8.2.1 General protective and hygienic measures:

Wash hands before breaks and at the end of work. Ensure adequate ventilation. No smoking.

8.2.2 Personal protective equipment:

Respiratory protection:

A respirator that is recommended or approved for use in isocyanate-containing environments (air-purifying or fresh air-supplied) may be necessary for spray applications or other situations such as high temperature use which may produce inhalation exposures. A supplied-air respirator (either positive pressure or continuous flow-type) is recommended. Before an air-purifying respirator can be used, air monitoring must be performed to measure airborne concentrations of HDI monomer and HDI polyisocyanate. Specific conditions under which air-purifying respirators can be used are outlined in the following sections. Observe OSHA regulations for respirator use (29 CFR 1910.134). SPRAY APPLICATION: A. Good industrial hygiene practice dictates that when isocyanate-based coatings are spray applied, some form of respiratory protection should be worn. During the spray application of coatings containing this product the use of a supplied-air (either positive pressure or continuous flow-type) respirator is mandatory when ONE OR MORE of the following conditions exists: -the airborne isocyanate concentrations are not known; or -the airborne isocyanate monomer concentrations exceed 0.05 ppm averaged over eight (8) hours (10 times the 8 hour TWA exposure limit); or -the airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m3 averaged over 8 hours or 10 mg/m3 averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits); or -operations are performed in a confined space (See OSHA Confined Space Standard, 29 CFR 1910.146). A properly fitted air-purifying (combination organic vapor and particulate) respirator, proven by test to be effective in isocyanate-containing spray paint environments, and used in accordance with all recommendations made by the manufacturer, can be used when ALL of the following conditions are met: -The airborne isocyanate monomer concentrations are known to be below 0.05 ppm averaged over eight (8) hours (10 times 8 hour TWA exposure limit); and -the airborne polyisocyanate (polymeric, oligomeric) concentrations are known to be below 5 mg/m3 averaged over 8 hours or 10 mg/m3 averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits). In addition, prefilters should be changed whenever breathing resistance increases due to particulate buildup. NON-SPRAY OPERATIONS: A. During non-spray operations such as mixing, batch-making, brush or roller application, etc., at elevated temperatures (for example, heating of material or application to a hot substrate), it is possible to be exposed to airborne isocyanate vapors. Therefore, when the coatings system will be applied in a non-spray manner, a supplied-air (either positive pressure or continuous flow-type) respirator is mandatory when ONE OR MORE of the following conditions exists: - the airborne isocyanate concentrations are not known; or - the airborne isocyanate monomer concentrations exceed 0.05 ppm averaged over eight (8) hours (10 times the 8 hour TWA exposure limit); or - the airborne polyisocyanate (polymeric, oligomeric) concentrations exceed 5 mg/m3 averaged over 8 hours or 10 mg/m3 averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits); or - operations are performed in a confined space (See OSHA Confined Space Standard, 29 CFR 1910.146). A properly fitted air-purifying (combination organic vapor and particulate) respirator, proven by test to be effective in isocyanate-containing paint environments, and used in accordance with all recommendations made by the manufacturer, can be used when ALL of the following conditions are met: -the airborne concentrations of the isocyanate monomer are below 0.05 ppm averaged over eight (8) hours (10 times the 8 hour TWA exposure limit); and - the airborne polyisocyanate (polymeric, oligomeric) concentrations are known to be below 5 mg/m3 averaged over eight (8) hours or 10 mg/m3 averaged over 15 minutes (10 times the 8 hour TWA or the 15 minute STEL exposure limits) and - a NIOSH-certified End of Service Life Indicator or a change schedule based upon objective information or data is used to ensure that cartridges are replaced before the end of their service life. In addition, prefilters should be changed whenever breathing resistance increases due to particulate buildup.

Protection of hands:

Ensure gloves remain in good condition during use and replace if any deterioration is observed.
Gloves should be worn., Nitrile rubber gloves., Butyl rubber gloves., Neoprene gloves.
Recommendation: contaminated gloves should be disposed of.

Eye protection: Chemical safety goggle, or chemical safety goggle in combination with a full face shield when there is a greater risk of splash..
Skin and body protection: Wear suitable protective clothing.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (colour)	: Colourless
Appearance (form)	: Liquid
Odour	: Almost odourless
Boiling Point	: Not applicable.
Vapour Pressure	: <0.00003 hPa (at 20 °C)
Vapor Density	: No data available.
Density	: 1.17 g/cm^3 (at 20 °C)
Melting Point	: ca. -50 °C
Flash Point	: 228 °C
pH	: Not applicable.
Evaporation Rate	: No data available.
Solubility in Water	: Immiscible (at 15 °C)
Auto-ignition temperature	: ca. 460 °C
Decomposition temperature	: ca. 250 °C
Self-ignition temperature	: 270 °C
Viscosity, dynamic	: ca. 3000 mPa.s at 23 °C (DIN EN ISO 3219/A.3)

10. STABILITY AND REACTIVITY

10.1 Reactivity: No dangerous reaction known under conditions of normal use.
10.2 Chemical stability: Stable under recommended storage conditions.
10.3 Possibility of hazardous reactions: Exothermic reaction with amines and alcohols; reacts slowly with water forming CO2, in closed containers risk of bursting owing to increase of pressure.
10.4 Conditions to avoid: Protect from moisture.
10.5 Incompatible materials: Water, amines, strong bases, alcohols, copper alloys.
10.6 Hazardous decomposition products: No hazardous decomposition products when stored and handled correctly.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Exposure route	Endpoint	Value	Species
Oral	LD50	>2500 mg/kg	Rat
Dermal	LD50	>2000 mg/kg	Rat
Inhalation	LD50	0.39-0.543 mg/l, 4 h	Rat

Skin corrosion/irritation: Shall not be classified as skin corrosion or skin irritation.
Serious eye damage/eye irritation: Shall not be classified as eye damage or eye irritation.
Respiratory or skin sensitization: May cause sensitization by skin contact.
Summary of evaluation of the CMR properties: Shall not be classified as a germ cell mutagenic, carcinogenic nor as a reproductive toxicant.
Specific target organ toxicity – single exposure: May cause respiratory irritation.
Specific target organ toxicity – repeated exposure: Shall not be classified as specific target organ toxicity – repeated exposure.
Aspiration hazard: Shall not be aspiration hazard.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Endpoint	Value	Species	Exposure time

LC50	>100 mg/L	Fish (Zebra fish)	96 hours
EC50	>100 mg/L	Aquatic Invertebrates (Daphnia magna)	48 hours
EC50	>1000 mg/L	Green algae	72 hours

12.2 Persistence and degradability
Not readily biodegradable.
12.3 Bioaccumulative potential
No data available.
12.4 Mobility in soil
Not applicable.
12.5 Results of PBT and vPvB Assessment
This substance does not meet the criteria for classification as PBT or vPvB.
12.6 Other adverse effects
Isocyanate reacts with water at the interface forming CO_2 and a solid insoluble product with high melting point (polyurea). This reaction is accelerated by surfactants (e.g. detergents) or by water soluble solvents. Previous experience shows that polyurea is inert and non-degradable.

13. DISPOSAL CONSIDERATION
13.1 Waste treatment methods
After final product withdrawal, all residues must be removed from containers (drip-free, powder-free or paste-free). Packaging empty of usable product can be handed to a professional waste management company. Containers must be recycled in compliance with national legislation and environmental regulations. None disposal into waste water.
Contaminated Packaging
Do not reuse empty containers and dispose of in accordance with the regulations issued by the appropriate local authorities. If there is product residue in the emptied container, follow directions for handling on the container's label. Incorrect disposal or reuse of this container is illegal and can be dangerous. Do not grind, torch cut, weld or heat an empty container that once held an isocyanate-containing product; highly toxic vapors or gases are formed.
13.2 Relevant provisions relating to waste
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.
13.3 Remarks
Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

14. TRANSPORT INFORMATION
14.1 IATA-DGR
UN number : Non dangerous goods
UN proper shipping name : Non dangerous goods
Transport hazard class(es) : -
Packing group : -
Environmental hazards : No
Special precautions for user : No data available.
14.2 IMDG-Code
UN number : Non dangerous goods
UN proper shipping name : Non dangerous goods
Transport hazard class(es) : -
Packing group : -
Environmental hazards : No
Marine pollutant : No
EmS Code : -

15. REGULATORY INFORMATION

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

US Federal Regulations

US. Toxic Substances Control Act (TSCA)

All chemical substances in this material are included on the TSCA Inventory of Chemical Substances.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Hazardous Substance List

None present or none present in regulated quantities.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Emergency Planning and Community Right-To-Know Act (EPCRA) Section 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

Emergency Planning and Community Right-To-Know Act (EPCRA) Section 313 Toxics Release Inventory (TRI) Reporting

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CRF 68.130)

None present or none present in regulated quantities.

US. State Regulation

US. California Proposition 65

No ingredient requiring a warning under CA Prop 65.

EU Regulation

EU. Directive 2012/18/EU (SEVESO III) on Major Accident Hazards Involving Dangerous Substances, Annex I:

Not applicable.

15.2 Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

16. OTHER INFORMATION

Further information

Changes since the last version are highlighted in the margin. This version replaces all previous versions.
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 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 use in combination with any other materials or any process, unless specified in the test.

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

PRODUCT NAME	: IGL Coatings™ ecocoat armor diluent
FUNCTION	: Diluent for ecocoat Armor
COMPANY	: Ominent Sdn Bhd
ADDRESS	: No.7, Jalan Majistret U1/26, Hicom-Glenmarie Industrial Park, Seksyen U1, 40150 Shah Alam, Selangor.
PHONE	: +60355690980
EMAIL ADDRESS	: regulations@iglcoatings.com

2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Physical hazards

Flammable liquid	Category 3

Health hazards

Eye irritation	Category 2
Specific target organ toxicity – single exposure	Category 3

2.2 Label Elements

Regulation (EC) No. 1272/2008


GHS02


GHS07

Signal word

Warning

Hazard statements

H226	Flammable liquid and vapour
H319	Causes serious eye irritation
H336	May cause drowsiness or dizziness

Precautionary statements

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P235	Keep cool.
P240	Ground and bound container and receiving equipment.
P241	Use explosion-proof equipment.
P261	Avoid breathing fumes/gas/vapours/spray.
P264	Wash exposed skin thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTRE/doctor if you feel unwell.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P370+P378	In case of fire: use water spray, alcohol-resistant foam, dry chemical, carbon dioxide to extinguish.
P403+P233+P235	Store in well-ventilated place. Keep container tightly closed. Keep cool.
P405	Store locked up.
P501	Dispose of contents/container to comply with local, state and federal regulations.

3. COMPOSITION/INFORMATION ON INGREDIENTS

CAS No.	Chemical Name			Quantity
	EC No.	Index No.	REACH No.	
	Classification according to Regulation (EC) No. 1272/2008 (CLP)			
123-86-4	Butyl acetate			30-60%
	204-658-1	Not applicable	01-2119485493-29-0000	
	Flam Liq. 3: H226; STOT SE 3: H336;			
141-78-6	Ethyl acetate			30-60%
	205-500-4	Not applicable	01-2119475103-46-0000	
	Flam. Liq 2: H225; Eye Irr. 2: H319; STOT SE 3: H336			

4. FIRST AID MEASURES

4.1 Description of first aid measures

General Information

Take off contaminated clothing immediately**.**

After Inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

After skin contact

Gently wash with plenty of soap and water. In case of skin irritation, seek medical treatment.

After contact with eyes

Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if presence and easy to do.
In case of troubles or persistent symptoms, consult an ophthalmologist.

After ingestion

Wash out mouth with water provided the person is conscious.
Never give anything by mouth to an unconscious person.
In all cases of doubt, or when symptoms persist, seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

5. FIRE-FIGHTING MEASURES

5.1 Suitable extinguishing media

Water spray, alcohol-resistant foam, dry chemical, carbon dioxide.

5.2 Unsuitable extinguishing media

No information available.

5.3 Special hazards arising from the substance or mixture

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

5.4 Advise for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

5.5 Unusual Fire Hazards:

Not known.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Wear personal protection equipment (Refer to section 8).
Ensure adequate ventilation. Remove all ignition sources.

6.2 Environmental precautions

Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Take precautionary measures against static discharges. Use spark-proof tools and explosion-proof equipment.

6.4 Reference to other sections

Safe handling: Refer to section 7
Personal protection equipment: Refer to section 8
Disposal: Refer to section 13

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Advice on safe handling

Prevent formation of aerosol. Follow good hygiene procedures when handling chemical materials. Do not eat, drink, smoke or use personal products when handling the chemical. Use only in well ventilated areas. Avoid splashes or spray in enclosed area. Wash hands before breaks and at the end of work.

Advice on protection against fire and explosion

Flammable.
Keep container tightly closed and in a well-ventilated place.
Keep away from open flames and hot surfaces. No smoking.

Further information on handling

General protection and hygiene measures: Refer to section 8.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Keep container tightly closed in a cool, well-ventilated place.

Advice on storage compatibility

Do not store together with food and feeding stuffs.

Further information on storage conditions

Keep the packing dry and well-sealed to prevent contamination.
Recommended storage temperature: 20-25°C.

7.3 Specific end use(s): Refer to section 1.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

8.1 Control parameters

Ingredients with limit values that require monitoring at the workplace:

Component	Value type (Form of exposure)	Control parameter	Basis
Butyl acetate	TWA	150 ppm 713 mg/m^3	MY PEL
	TWA	150 ppm	ACGIH
	STEL	200 ppm	ACGIH
Ethyl acetate	TWA	400 ppm	ACGIH
	PEL	400 ppm, 1400 mg/m^3	OSHA

8.2 Exposure Control

8.2.1 General protective and hygienic measures:

Wash hands before breaks and at the end of work. Ensure adequate ventilation. No smoking.

8.2.2 Personal protective equipment:

Respiratory protection:

When concentrations above the exposure limit they must use appropriate certified respirators.

Protection of hands:

Wear appropriate protective glove such as gloves made from butyl rubber and nitrile rubber.

Eye protection: Safety goggles with side shield.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance (colour)	: Colourless
Appearance (form)	: Liquid
Odour	: Solvent-like odour
Melting Point	: Not applicable
Boiling Point	: >100 °C
Flash Point	: 24 °C
Vapour Pressure	: Data not available
Vapor Density	: Data not available
Specific gravity	: 0.883 g/cm^3 (at 25 °C)
pH	: Data not available
Evaporation Rate	: Data not available
Water solubility	: Insoluble in water

10. STABILITY AND REACTIVITY

10.1 Reactivity: Product is stable under normal condition.
10.2 Chemical stability: Product is stable under normal storage condition.
10.3 Possibility of hazardous reactions: None under normal processing.
10.4 Conditions to avoid: Incompatible products. Excess heat. Keep away from open flames, hot surfaces and sources of ignition.
10.5 Incompatible materials: Strong oxidizing agents, Strong acids, Strong bases
10.6 Hazardous decomposition products: Carbon monoxide (CO), Carbon dioxide (CO_2)

11. TOXICOLOGICAL INFORMATION

Exposure route	Endpoint	Value	Species	Source
Oral	LD50	6765.6 mg/kg	Rat	ECHA
Inhalation	LC50	1.44 mg/L	Rat	ECHA
Dermal	LD50	16547.8 mg/kg	Rabbit	ECHA

Skin corrosion/irritation: No information available.
Eye irritation: May cause serious eye irritation.
Respiratory or skin sensitization: No information available.
Summary of evaluation of the CMR properties: Shall not be classified as a germ cell mutagenic, carcinogenic nor as a reproductive toxicant.
Specific target organ toxicity – single exposure: No information available.
Specific target organ toxicity – repeated exposure: No information available.
Aspiration hazard: No information available.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

Specified substance: Butyl acetate

Endpoint	Value	Species	Exposure time	Sources
LC50	18 mg/L	Freshwater fish	96 hours	ECHA
EC50/LC50	32 – 44 mg/L	Aquatic invertebrates	48 hours	ECHA
NOEC	23 mg/L	Aquatic invertebrates	21 days	ECHA
EC50	397 – 674.7 mg/L	Freshwater algae	48 hours	ECHA

Specified substance: Ethyl acetate

Endpoint	Value	Species	Exposure time	Sources
LC50	230 mg/L	Freshwater fish	96 hours	ECHA
NOEC	6.9 mg/L	Freshwater fish	32 days	ECHA

EC50/LC50	165 3090 mg/L	Fresh water invertebrates	24 hours	ECHA
NOEC	2.4 mg/L	Freshwater invertebrates	21 days	ECHA
EC50	5.6 g/L	Freshwater algae	48 hours	ECHA

12.2 Process of degradability
No data available.
12.3 Bioaccumulative potential
No data available.
12.4 Mobility in soil
No data available.
12.5 Results of PBT and vPvB Assessment
No data available.
12.6 Other adverse effects
No data available.

13. DISPOSAL CONSIDERATION

13.1 Waste treatment methods
The product should not be allowed to enter drains, water courses or the soil. Dispose of contents/container to an approved waste disposal plant. In accordance with local and national regulations.
13.2 Relevant provisions relating to waste
The allocation of waste identity numbers/waste descriptions must be carried out according to the EEC, specific to the industry and process.
13.3 Remarks
Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions.

14. TRANSPORT INFORMATION

14.1 IATA-DGR

UN number	: 1263
UN proper shipping name	: Paint-related materials
Transport hazard class(es)	: 3
Packing group	: III
Environmental hazards	: No
Special precautions for user	: -

14.2 IMDG-Code

UN number	: 1263
UN proper shipping name	: Paint-related materials
Transport hazard class(es)	: 3
Packing group	: III
Environmental hazards	: No
Marine pollutant	: No

15. REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture
US Federal Regulations
US. Toxic Substances Control Act (TSCA)
All chemical substances in this material are included on the TSCA Inventory of Chemical Substances.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) Hazardous Substance List
This product contains the following substance subject to the CERCLA Hazardous Substance List

Component	CAS No.

Butyl acetate	123-86-4
Ethyl acetate	141-78-6

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Emergency Planning and Community Right-To-Know Act (EPCRA) Section 302 Extremely Hazardous Substance

None present or none present in regulated quantities.

Emergency Planning and Community Right-To-Know Act (EPCRA) Section 313 Toxics Release Inventory (TRI) Reporting

None present or none present in regulated quantities.

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CRF 68.130)

None present or none present in regulated quantities.

US. State Regulation

US. California Proposition 65

None present or none present in regulated quantities.

EU Regulation

EU. Directive 2012/18/EU (SEVESO III) on Major Accident Hazards Involving Dangerous Substances, Annex I:

Not applicable.

15.2 Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

16. OTHER INFORMATION

Further information

Changes since the last version are highlighted in the margin. This version replaces all previous versions.

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 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 use in combination with any other materials or any process, unless specified in the test.