



SAFETY DATA SHEET

IPAL Aluminium Diffusion Coating

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

1.1. Product identifier

Product name IPAL Aluminium Diffusion Coating
Product number IP1041

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

Identified uses Finish coat. Paint.
Uses advised against Keep away from food, drink and animal feeding stuffs.

1.3. Details of the supplier of the safety data sheet

Supplier INDESTRUCTIBLE PAINT LTD
 19-25 Pentos Drive
 Sparkhill
 Birmingham
 England
 B11 3TA
 Tel +44(0)121 702 2485
 Fax +44(0)121 778 4338
 sales@indestructible.co.uk

1.4. Emergency telephone number

Emergency telephone +44(0)7772968830

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification

Physical hazards Not Classified
Health hazards Acute Tox. 4 - H332 Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Muta. 1B - H340 Carc. 1A - H350 STOT SE 3 - H335 STOT RE 2 - H373
Environmental hazards Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410

Classification (67/548/EEC or 1999/45/EC) Carc. Cat. 1;R45. Xn;R21/22,R48/20. R42/43. Xi;R37. N;R51/53.

2.2. Label elements

Pictogram



Signal word

Danger

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Hazard statements	<p>H315 Causes skin irritation.</p> <p>H317 May cause an allergic skin reaction.</p> <p>H319 Causes serious eye irritation.</p> <p>H332 Harmful if inhaled.</p> <p>H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.</p> <p>H335 May cause respiratory irritation.</p> <p>H340 May cause genetic defects.</p> <p>H350 May cause cancer.</p> <p>H373 May cause damage to organs through prolonged or repeated exposure.</p> <p>H410 Very toxic to aquatic life with long lasting effects.</p>
Precautionary statements	<p>P202 Do not handle until all safety precautions have been read and understood.</p> <p>P260 Do not breathe vapour/spray.</p> <p>P273 Avoid release to the environment.</p> <p>P280 Wear protective gloves/protective clothing/eye protection/face protection.</p> <p>P302+P352 IF ON SKIN: Wash with plenty of water.</p> <p>P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.</p> <p>P333+P313 If skin irritation or rash occurs: Get medical advice/attention.</p> <p>P501 Dispose of contents/container in accordance with national regulations.</p>
Supplemental label information	RCH002a Restricted to professional users.
Contains	CHROMIUM TRIOXIDE
Supplementary precautionary statements	<p>P201 Obtain special instructions before use.</p> <p>P261 Avoid breathing vapour/spray.</p> <p>P264 Wash contaminated skin thoroughly after handling.</p> <p>P271 Use only outdoors or in a well-ventilated area.</p> <p>P272 Contaminated work clothing should not be allowed out of the workplace.</p> <p>P284 [In case of inadequate ventilation] wear respiratory protection.</p> <p>P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.</p> <p>P308+P313 IF exposed or concerned: Get medical advice/attention.</p> <p>P312 Call a POISON CENTER/doctor if you feel unwell.</p> <p>P314 Get medical advice/attention if you feel unwell.</p> <p>P321 Specific treatment (see medical advice on this label).</p> <p>P332+P313 If skin irritation occurs: Get medical advice/attention.</p> <p>P337+P313 If eye irritation persists: Get medical advice/attention.</p> <p>P342+P311 If experiencing respiratory symptoms: Call a POISON CENTER/doctor.</p> <p>P362+P364 Take off contaminated clothing and wash it before reuse.</p> <p>P391 Collect spillage.</p> <p>P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p> <p>P405 Store locked up.</p>

2.3. Other hazards

SECTION 3: Composition/information on ingredients

3.2. Mixtures

ALUMINIUM POWDER (STABILIZED)		20-40%
CAS number: 7429-90-5	EC number: 231-072-3	REACH registration number: 01-2119529243-45-0000
Classification	Classification (67/548/EEC or 1999/45/EC)	
Not Classified	F;R11,R15	

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PHOSPHORIC ACID ...%		10-20%
CAS number: 7664-38-2	EC number: 231-633-2	REACH registration number: 01-2119485924-24-0000
Classification Skin Corr. 1B - H314 Eye Dam. 1 - H318	Classification (67/548/EEC or 1999/45/EC) C;R34	
Silicon Dioxide Powder		1-<3%
CAS number: 112926-00-8	EC number: 231-545-4	
Classification Not Classified	Classification (67/548/EEC or 1999/45/EC) -	
CHROMIUM TRIOXIDE		1-<3%
CAS number: 1333-82-0	EC number: 215-607-8	REACH registration number: 01-2119458868-17-0000
M factor (Acute) = 10000000	M factor (Chronic) = 10000000	
Classification Ox. Sol. 1 - H271 Acute Tox. 3 - H301 Acute Tox. 3 - H311 Acute Tox. 2 - H330 Skin Corr. 1A - H314 Eye Dam. 1 - H318 Resp. Sens. 1 - H334 Skin Sens. 1 - H317 Muta. 1B - H340 Carc. 1A - H350 Repr. 2 - H361f STOT SE 3 - H335 STOT RE 1 - H372 Aquatic Acute 1 - H400 Aquatic Chronic 1 - H410	Classification (67/548/EEC or 1999/45/EC) O;R9 Carc. Cat. 1;R45 Muta. Cat. 2;R46 Repr. Cat. 3;R62 T+;R26 T;R24/25,R48/23 C;R35 R42/43 N;R50/53	

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation	Move affected person to fresh air at once. Get medical attention.
Ingestion	Rinse mouth thoroughly with water. DO NOT induce vomiting. Get medical attention immediately. Do not induce vomiting. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs.
Skin contact	Immediately remove contaminated clothing. Rinse immediately with plenty of water. Remove contaminated clothing. Get medical attention if any discomfort continues.

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Eye contact Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

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

General information The severity of the symptoms described will vary dependent on the concentration and the length of exposure. Chemical burns must be treated by a physician.

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

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Use fire-extinguishing media suitable for the surrounding fire. The product is non-combustible.

5.2. Special hazards arising from the substance or mixture

Specific hazards The product is non-combustible. Toxic and corrosive gases or vapours.

5.3. Advice for firefighters

Protective actions during firefighting Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

Special protective equipment for firefighters Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet.

6.2. Environmental precautions

Environmental precautions Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body. The product contains a substance which is very toxic to aquatic organisms and which may cause long-term adverse effects in the aquatic environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb in vermiculite, dry sand or earth and place into containers. Collect spillage for reclamation or disposal in sealed containers via a licensed waste contractor.

6.4. Reference to other sections

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Good personal hygiene procedures should be implemented. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Avoid inhalation of vapours/spray and contact with skin and eyes. Avoid inhalation of vapours and spray/mists.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Store at temperatures between 5°C and 35°C.

Storage class Chemical storage.

7.3. Specific end use(s)

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

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Occupational exposure limits

ALUMINIUM POWDER (STABILIZED)

Long-term exposure limit (8-hour TWA): WEL 10 mg/m³ inhalable dust

Long-term exposure limit (8-hour TWA): WEL 4 mg/m³ respirable dust

PHOSPHORIC ACID ...%

Long-term exposure limit (8-hour TWA): WEL 1 mg/m³

Short-term exposure limit (15-minute): WEL 2 mg/m³

Silicon Dioxide Powder

Long-term exposure limit (8-hour TWA): WEL 6 mg/m³

WEL = Workplace Exposure Limit

Ingredient comments

WEL = Workplace Exposure Limits

8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients. All handling should only take place in well-ventilated areas.

Eye/face protection

Wear chemical splash goggles.

Hand protection

Wear protective gloves made of the following material: Neoprene. Nitrile rubber. Rubber (natural, latex).

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact. Wear apron or protective clothing in case of contact.

Hygiene measures

Provide eyewash station and safety shower. Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink or smoke.

Respiratory protection

Wear respiratory protection with combination filter (dust and gas filter).

Thermal hazards

During diffusion metallic phosphides can be produced in the coating. These compounds hydrolyse in the presence of airborne water vapour. Phosphine is highly toxic and parts should be placed in a well ventilated area with an RH of 50-60% after diffusion. Ventilation should be at the rate of 1-2 air volume changes per hour. Personnel handling freshly diffused parts should be equipped with air fed respirators. The diffused parts should be aged for 24 hours in the ventilated area prior to handling. A phosphine gas detector can be used to monitor the working and storage area.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Dark-coloured liquid.
Colour	Grey.
Odour	No characteristic odour.
Initial boiling point and range	100°C @ 1013 hPa
Flash point	Non-Flammable°C

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Upper/lower flammability or explosive limits Not applicable.

Relative density 1.65 g/ml @ 23°C

9.2. Other information

Volatile organic compound This product contains a maximum VOC content of 0 g/litre.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity See Section 10.3 (Possibility of hazardous reactions) for further information.

10.2. Chemical stability

Stability No particular stability concerns.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Under normal conditions of storage and use, no hazardous reactions will occur.

10.4. Conditions to avoid

Conditions to avoid Avoid exposure to high temperatures or direct sunlight. Avoid freezing.

10.5. Incompatible materials

Materials to avoid No specific requirements are anticipated under normal conditions of use.

10.6. Hazardous decomposition products

Hazardous decomposition products When heated, vapours/gases hazardous to health may be formed. Heating may generate the following products: Toxic and corrosive gases or vapours.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological effects This product is toxic.

Other health effects Reasonably anticipated to be a human carcinogen.

Acute toxicity - oral

ATE oral (mg/kg) 10,000.0

Acute toxicity - dermal

ATE dermal (mg/kg) 30,000.0

Acute toxicity - inhalation

ATE inhalation (gases ppm) 10,000.0

ATE inhalation (vapours mg/l) 50.0

ATE inhalation (dusts/mists mg/l) 5.0

General information Prolonged and repeated contact with solvents over a long period may lead to permanent health problems.

Inhalation Gas or vapour in high concentrations may irritate the respiratory system. Symptoms following overexposure may include the following: Coughing. Toxic: danger of serious damage to health by prolonged exposure through inhalation.

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Ingestion	Gastrointestinal symptoms, including upset stomach.
Skin contact	Harmful in contact with skin. Irritating to skin.
Eye contact	Irritating to eyes. Symptoms following overexposure may include the following: Redness. Pain.

SECTION 12: Ecological Information

Ecotoxicity Dangerous for the environment if discharged into watercourses. Toxic to aquatic life with long lasting effects.

12.1. Toxicity

Toxicity Avoid releasing into the environment.

12.2. Persistence and degradability

Persistence and degradability The product is not readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential Accumulates in soil and water systems.

12.4. Mobility in soil

Mobility The product is water-soluble and may spread in water systems.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is classified as PBT.

12.6. Other adverse effects

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste should be treated as controlled waste. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

14.1. UN number

UN No. (ADR/RID) 3287

UN No. (IMDG) 3287

UN No. (ICAO) 3287

UN No. (ADN) 3287

14.2. UN proper shipping name

Proper shipping name (ADR/RID) TOXIC LIQUID, INORGANIC, N.O.S. (Chrome 6 Solution)

Proper shipping name (IMDG) TOXIC LIQUID, INORGANIC, N.O.S. (Chrome 6 Solution)

Proper shipping name (ICAO) TOXIC LIQUID, INORGANIC, N.O.S. (Chrome 6 Solution)

Proper shipping name (ADN) TOXIC LIQUID, INORGANIC, N.O.S. (Chrome 6 Solution)

14.3. Transport hazard class(es)

ADR/RID class 6.1

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ADR/RID classification code	T4
ADR/RID label	6.1
IMDG class	6.1
ICAO class/division	6.1
ADN class	6.1

Transport labels



14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ADN packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS	F-A, S-A
ADR transport category	2
Emergency Action Code	2X
Hazard Identification Number (ADR/RID)	60
Tunnel restriction code	(E)

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

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

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision date	18/04/2016
Revision	6

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Risk phrases in full

R21/22 Harmful in contact with skin and if swallowed.
R24/25 Toxic in contact with skin and if swallowed.
R26 Very toxic by inhalation.
R34 Causes burns.
R35 Causes severe burns.
R37 Irritating to respiratory system.
R42/43 May cause sensitisation by inhalation and skin contact.
R45 May cause cancer.
R46 May cause heritable genetic damage.
R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.
R50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R62 Possible risk of impaired fertility.
R9 Explosive when mixed with combustible material.

Hazard statements in full

H271 May cause fire or explosion; strong oxidiser.
H301 Toxic if swallowed.
H311 Toxic in contact with skin.
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.
H319 Causes serious eye irritation.
H330 Fatal if inhaled.
H332 Harmful if inhaled.
H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H335 May cause respiratory irritation.
H340 May cause genetic defects.
H350 May cause cancer.
H361f Suspected of damaging fertility.
H372 Causes damage to organs through prolonged or repeated exposure.
H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

This 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. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.