



SAFETY DATA SHEET

2117 Hard-Hat® Bright Galvanizing

1. Identification of the preparation and of the company

Product name and/or code : 2117 Hard-Hat® Bright Galvanizing
Product use : Andrews Coatings Ltd. Carver Building, Littles Lane
Manufacturer : Wolverhampton, West Midlands, WV1 1JY
 Telephone Number: 01902 429190, Fax Number: 01902 426574
Emergency phone: Email: sales@andrewscoatings.co.uk

2. Composition/information on ingredients

Substances presenting a health or environmental hazard within the meaning of the Dangerous Substances Directive 67/548/EEC.

Chemical name*	CAS no.	%	EC nr.	Classification
United Kingdom (UK)				
Dimethyl ether	115-10-6	25 - 50	204-065-8	F+; R12
Zinc powder, stabilized	7440-66-6	25 - 50	231-175-3	N; R50/53
Xylene (mixture of isomers)	1330-20-7	10 - 25	215-535-7	R10 Xn; R20/21 Xi; R38
Solvent naphtha (petroleum), light aromatic	64742-95-6	1 - 2.5	265-199-0	R10 Xn; R65 Xi; R37 R66 N; R51/53
Zinc oxide	1314-13-2	1 - 2.5	215-222-5	N; R50/53
Naphtha (petroleum), hydrodesulfurized heavy	64742-82-1	0 - 1	265-185-4	R10 Xn; R65 R66 N; R51/53
1,2,4-Trimethylbenzene	95-63-6	0 - 1	202-436-9	R10 Xn; R20 Xi; R36/37/38 N; R51/53
Antistatic agent.		0 - 1	269-662-8	Xn; R22 C; R35 N; R50
Mesitylene	108-67-8	0 - 1	203-604-4	R10 Xi; R37 N; R51/53
See section 16 for the full text of the R-phrases declared above				

Occupational exposure limits, if available, are listed in section 8.

3. Hazards identification

The preparation is classified as dangerous according to Directive 1999/45/EC and its amendments.

Classification : F+; R12
N; R50/53

Physical/chemical hazards : Extremely flammable.

Environmental hazards : Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Additional warning phrases : Pressurized container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking.

4. First aid measures

First aid measures

- General** : In all cases of doubt, or when symptoms persist, seek medical attention. Never give anything by mouth to an unconscious person.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Give nothing by mouth. If unconscious, place in recovery position and seek medical advice.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do not use solvents or thinners.
- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting.

5. Fire-fighting measures

- Extinguishing media** : Recommended: alcohol-resistant foam, CO₂, powders, water spray.
Not to be used : water jet.
- Recommendations** : Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard. Appropriate breathing apparatus may be required. Bursting aerosol containers may be propelled from a fire at high speed. Cool closed containers exposed to fire with water. Do not release runoff from fire to sewers or waterways.
- Hazardous combustion products** : Decomposition products may include the following materials:
carbon oxides
metal oxide/oxides

6. Accidental release measures

- Personal precautions** : Exclude sources of ignition and ventilate the area. Avoid breathing vapor or mist. Refer to protective measures listed in sections 7 and 8.
- Spill** : 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 (see section 13). Do not allow to enter drains or watercourses. Preferably clean with a detergent. Avoid using solvents. If the product contaminates lakes, rivers, or sewers, inform the appropriate authorities in accordance with local regulations.

Note: see section 8 for personal protective equipment and section 13 for waste disposal.

7. Handling and storage

- Handling** : Vapors are heavier than air and may spread along floors. Vapors may form explosive mixtures with air. Prevent the creation of flammable or explosive concentrations of vapors in air and avoid vapor concentrations higher than the occupational exposure limits.

Keep container tightly closed. Keep away from heat, sparks and flame. No sparking tools should be used.

In addition, the product should only be used in areas from which all naked lights and other sources of ignition have been excluded. Electrical equipment should be protected to the appropriate standard.

Avoid contact with skin and eyes. Avoid the inhalation of dust, particulates, spray or mist arising from the application of this preparation. Avoid inhalation of dust from sanding.

Eating, drinking and smoking should be prohibited in area where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking.

Put on appropriate personal protective equipment (see section 8).

Comply with the health and safety at work laws.

- Storage** : Store in accordance with local regulations. Observe label precautions. Do not store above the following temperature: 35°C (95°F). Store in a cool, well-ventilated area away from incompatible materials and ignition sources.

Keep away from: oxidizing agents, strong alkalis, strong acids.

No smoking. Prevent unauthorized access. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

Do not empty into drains.

8. Exposure controls/personal protection

Engineering measures : Provide adequate ventilation. Where reasonably practicable, this should be achieved by the use of local exhaust ventilation and good general extraction. If these are not sufficient to maintain concentrations of particulates and solvent vapors below the OEL, suitable respiratory protection must be worn.

<u>Ingredient name</u>	<u>Occupational exposure limits</u>
United Kingdom (UK)	
Dimethyl ether	EH40-WEL (United Kingdom (UK), 1/2005). STEL: 958 mg/m ³ 15 minute(s). Form: All forms TWA: 500 ppm 15 minute(s). Form: All forms TWA: 766 mg/m ³ 8 hour(s). Form: All forms TWA: 400 ppm 8 hour(s). Form: All forms
Xylene (mixture of isomeres)	EH40-WEL (United Kingdom (UK), 1/2005). Skin STEL: 441 mg/m ³ 15 minute(s). Form: All forms STEL: 100 ppm 15 minute(s). Form: All forms TWA: 220 mg/m ³ 8 hour(s). Form: All forms TWA: 50 ppm 8 hour(s). Form: All forms
Solvent naphtha (petroleum), light aromatic	EH40-WEL (United Kingdom (UK), 6/2005). Notes: Trimethylbenzene, all isomers TWA: 125 mg/m ³ 8 hour(s). TWA: 25 ppm 8 hour(s).
Naphtha (petroleum), hydrodesulfurized heavy	EH40-WEL (United Kingdom (UK), 6/2005). Notes: as Turpentine (150 ppm) STEL: 850 mg/m ³ 15 minute(s). EH40-WEL (United Kingdom (UK), 6/2005). Notes: as Turpentine (100 ppm) TWA: 566 mg/m ³ 8 hour(s).
1,2,4-Trimethylbenzene	EH40-WEL (United Kingdom (UK), 1/2005). TWA: 125 mg/m ³ 8 hour(s). Form: All forms TWA: 25 ppm 8 hour(s). Form: All forms
Mesitylene	EH40-WEL (United Kingdom (UK), 1/2005). TWA: 125 mg/m ³ 8 hour(s). Form: All forms TWA: 25 ppm 8 hour(s). Form: All forms

Exposure controls

Occupational exposure controls : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Respiratory protection : Recommended: organic vapor (Type A) and particulate filter (EN 141).

Hand protection : >8 hours (breakthrough time): For prolonged or repeated handling, use the following type of gloves: polyvinyl alcohol (PVA) (EN 374-1).

Eye protection : Recommended: safety glasses with side-shields (EN 166).

Skin protection : Recommended: disposable overall .

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Environmental exposure controls

Do not allow to enter drains or watercourses.

9. Physical and chemical properties

Physical state	: Liquid. [Aerosol.]
Odor	: Hydrocarbon.
Color	: Silvery.
Flash point	: - 40 °C
Boiling point	: -25°C (-13°F)
Explosion limits	: Lower: 3% Upper: 18%
Vapor pressure	: 420 kPa (3150,26 mm Hg)
Vapor density	: >1 [Air = 1]

9. Physical and chemical properties

Evaporation rate (butyl acetate = 1)	: >1 (Butyl acetate. = 1)
Volatility %	: 92.2% (v/v). 65.3% (w/w).
VOC content w/w	: 842 (g/l).
Relative density	: 0.99 (Water = 1)
pH	: Neutral.

10. Stability and reactivity

Stable under recommended storage and handling conditions (see section 7).

Hazardous decomposition products: carbon monoxide, carbon dioxide, smoke, oxides of nitrogen.

Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

11. Toxicological information

There is no data available on the preparation itself. The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and classified for toxicological hazards accordingly. See sections 2 and 15 for details.

Exposure to component solvent vapor concentrations in excess of the stated occupational exposure limit may result in adverse health effects such as mucous membrane and respiratory system irritation and adverse effects on the kidneys, liver and central nervous system. Solvents may cause some of the above effects by absorption through the skin. Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and, in extreme cases, loss of consciousness. Repeated or prolonged contact with the preparation may cause removal of natural fat from the skin, resulting in non-allergic contact dermatitis and absorption through the skin. If splashed in the eyes, the liquid may cause irritation and reversible damage.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Dimethyl ether	LC50 Inhalation	Rat	308000 mg/m ³	1 hours
	Gas.			
Zinc powder, stabilized	LC50 Inhalation	Mouse	386 ppm	0,5 hours
	Gas.			
Zinc powder, stabilized	LDLo Oral	Birds.	388 mg/kg	-
	TDLo Intratracheal	Rat	25 mg/kg	-
Xylene (mixture of isomeres)	LD50 Dermal	Rabbit	>1700 mg/kg	-
	LD50 Oral	Rat	4300 mg/kg	-
	LC50 Inhalation	Rat	5000 ppm	4 hours
Solvent naphtha (petroleum), light aromatic	Vapor			
	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Quail	>2150 mg/kg	-
	LD50 Oral	Mouse	8400 mg/kg	-
	LC50 Inhalation	Rat	29 mg/L	4 hours
Zinc oxide	Vapor			
	LD50 Oral	Rat	>14700 mg/kg	-
	LD50 Oral	Mouse	7950 mg/kg	-
	LDLo Oral	Human/30 min	500 mg/kg	-
	LC50 Inhalation	Mouse	2500 mg/m ³	4 hours
Naphtha (petroleum), hydrodesulfurized heavy	Dusts and mists			
	LD50 Dermal	Rabbit	>3000 mg/kg	-
	LD50 Oral	Rat	>6500 mg/kg	-
	LC50 Inhalation	Rat	>14 mg/L	4 hours
1,2,4-Trimethylbenzene	Vapor			
	LD50 Oral	Rat	5000 mg/kg	-
	LC50 Inhalation	Rat	18000 mg/m ³	4 hours
Antistatic agent. Mesitylene	Vapor			
	LD50 Oral	Rat	608 mg/kg	-
	LC50 Inhalation	Rat	24000 mg/m ³	4 hours
	Vapor			

12. Ecological information

There is no data available on the preparation itself.
Do not allow to enter drains or watercourses.

The preparation has been assessed following the conventional method of the Dangerous Preparations Directive 1999/45/EC and is classified for eco-toxicological properties accordingly. See Sections 2 and 15 for details.

Aquatic ecotoxicity

12. Ecological information

Product/ingredient name	Test	Result	Species	Exposure
Zinc powder, stabilized	Intoxication	Acute EC50 2,8 mg/L	Daphnia - Daphnia	48 hours
	Mortality	Acute LC50 0,56 mg/L	Fish - Rainbow trout (oncorhynchus mykiss) - Oncorhynchus mykiss	96 hours
	Mortality	Acute LC50 0,238 mg/L	Fish - Fathead minnow (pimephales promelas) - Pimephales promelas	96 hours
Xylene (mixture of isomeres)	Mortality	Acute LC50 13,4 mg/L	Fish - Fathead minnow (pimephales promelas) - Pimephales promelas	96 hours
	Mortality	Acute LC50 12 mg/L	Fish - Bluegill sunfish (lepomis macrochirus) - Lepomis macrochirus	96 hours
	Mortality	Acute LC50 8,2 mg/L	Fish - Rainbow trout (oncorhynchus mykiss) - Oncorhynchus mykiss	96 hours
Solvent naphtha (petroleum), light aromatic	-	Acute IC50 1 to 10 mg/L	Algae	72 hours
	-	Acute LC50 18 mg/L	Fish - Trout - Oncorhynchus	96 hours
	-	Acute LC50 21 mg/L	Daphnia - Daphnia	24 hours
Zinc oxide	Intoxication	Acute EC50 >1000 mg/L	Daphnia - Daphnia	48 hours
	Mortality	Acute LC50 2246 mg/L	Fish - Fathead minnow (pimephales promelas) - Pimephales promelas	96 hours
	Mortality	Acute LC50 >320 mg/L	Fish - Bluegill sunfish (lepomis macrochirus) - Lepomis macrochirus	96 hours
Naphtha (petroleum), hydrodesulfurized heavy	Mortality	Acute LC50 1,1 mg/L	Fish - Rainbow trout (oncorhynchus mykiss) - Oncorhynchus mykiss	96 hours
	-	Acute EC50 4 to 10 mg/L	Daphnia	48 hours
	-	Acute IC50 10 to 100 mg/L	Algae	72 hours
1,2,4-Trimethylbenzene	-	Acute LC50 10 to 100 mg/L	Fish	96 hours
	-	Acute EC50 30 mg/L	Daphnia - daphnia	48 hours
	Mortality	Acute LC50 7,72 mg/L	Fish - Fathead minnow (pimephales promelas) - Pimephales promelas	96 hours
Mesitylene	Population	Acute IC50 53 mg/L	Algae - Scenedesmus subspicatus	48 hours
	Population	Acute IC50 25 mg/L	Algae - Scenedesmus subspicatus	48 hours
	-	Acute LC50 12,52 mg/L	Fish - Goldfish (carassius auratus) - Carassius auratus	96 hours

Ecological information

Biodegradability

Product/ingredient name	Test	Result	Dose	Inoculum
Xylene (mixture of isomeres)	-	90 % - Readily - 5 days	-	-

Product/ingredient name

Xylene (mixture of isomeres)

Solvent naphtha (petroleum), light aromatic

Naphtha (petroleum), hydrodesulfurized heavy

Aquatic half-life

-

-

-

Photolysis

-

-

100%; < 28 day(s).

Biodegradability

Readily

Readily

-

Bioaccumulative potential

Product/ingredient name

Dimethyl ether

Xylene (mixture of isomeres)

Solvent naphtha (petroleum), light aromatic

Naphtha (petroleum), hydrodesulfurized heavy

1,2,4-Trimethylbenzene

LogP_{ow}

0.1

3.2

3.7 to 4.5

>3

3.8

BCF

-

-

-

-

-

Potential

low

high

high

high

high

AOX : The product contains organically bound halogens and can contribute to the AOX value in waste water.

13. Disposal considerations

Do not allow to enter drains or watercourses.

Dispose of according to all federal, state and local applicable regulations.

European waste catalogue (EWC) : The European Waste Catalogue classification of this product, when disposed of as waste, is: 20 01 27* paint, inks, adhesives and resins containing dangerous substances. If this product is mixed with other wastes, this code may no longer apply. If mixed with other wastes, the appropriate code should be assigned. For further information, contact your local waste authority.


Hazardous waste : Yes.

14. Transport information

Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

International transport regulations

14. Transport information

Regulatory information	UN number	Proper shipping name	Classes	PG*	Label	Additional information
ADR/RID Class	1950	AEROSOLS, flammable n.o.s. Limited quantity	2	-		Hazard identification number 23 Limited quantity LQ2 CEFIC Tremcard 20G53 Remarks Limited Quantity - ADR/IMDG 3.4.6
IMDG Class	1950	AEROSOLS, flammable n.o.s. Limited quantity	2.1	-		Emergency schedules (EmS) F-D, S-U Remarks Limited Quantity - ADR/IMDG 3.4.6
IATA Class	1950	AEROSOLS, flammable n.o.s.	2.1	-		Passenger and Cargo Aircraft Quantity limitation: 75 kg Cargo Aircraft Only Quantity limitation: 150 kg Limited Quantities - Passenger Aircraft Quantity limitation: 30 kg Packaging instructions: 203 (<6 bar @ 20°C)

PG* : Packing group

15. Regulatory information

EU regulations

: The product is classified and labelled for supply in accordance with the Directive 1999/45/EC as follows:

Hazard symbol(s)



Extremely flammable, Dangerous for the environment.

Risk phrases

: R12- Extremely flammable.
R50/53- Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Safety phrases

: S2- Keep out of the reach of children.
S23- Do not breathe vapor or spray.
S29- Do not empty into drains.
S51- Use only in well-ventilated areas.
S61- Avoid release to the environment. Refer to special instructions/safety data sheet.

Europe inventory

: **Europe inventory:** All components are listed or exempted.

Other EU regulations

Additional warning phrases : Pressurized container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Do not spray on a naked flame or any incandescent material. Keep away from sources of ignition - No smoking.

CN code

: 3208 90 19

National regulations

16. Other information

CEPE Classification	: 1
Full text of R-phrases referred to in sections 2 and 3 - United Kingdom (UK)	: R12- Extremely flammable. R10- Flammable. R20- Harmful by inhalation. R22- Harmful if swallowed. R20/21- Harmful by inhalation and in contact with skin. R65- Harmful: may cause lung damage if swallowed. R35- Causes severe burns. R37- Irritating to respiratory system. R38- Irritating to skin. R36/37/38- Irritating to eyes, respiratory system and skin. R66- Repeated exposure may cause skin dryness or cracking. R50- Very toxic to aquatic organisms. 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.

The information in this Safety Data Sheet is required pursuant to EU Directive 91/155/EEC and its amendments.

Notice to reader

The information in this SDS is based on the present state of our knowledge and on current laws. The product is not to be used for purposes other than those specified under section 1 without first obtaining written handling instructions. It is always the responsibility of the user to take all necessary steps to fulfill the demands set out in the local rules and legislation. The information in this SDS is meant to be a description of the safety requirements for our product. It is not to be considered a guarantee of the product's properties. ©Copyright by Rust-Oleum Netherlands B.V. / Martin Mathys B.V.



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Rustoleum Aerosols, Carver Building, Littles Lane, Wolverhampton WV1 1JY
 Tel: 01902 712286 Email: sales@rustoleumaerosols.co.uk
 Fax: 01902 426574 Web: www.rustoleumaerosols.co.uk