

Version : 5.5
Revision date : 30/12/2017
Issue date : 18/07/2011
Form No : 0101120011



SAFETY DATA SHEET

EMS Dubell® Chemical Anchor F.1311 (A)

according to Regulation (EC) No. 1907/2006(REACH) with its amendment Regulation (EC) No. 2015/830

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

1.1. Product identifier

Product name : EMS Dubell® Chemical Anchor F.1311 (A)

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

1.2.1. Relevant identified uses

Use of the substance/mixture : Anchoring and bonding of concrete, marble, stone etc.
F.1311 Chemical Anchor is used via mixing component 'A' with component 'B' by the help of a nozzle.

1.3. Details of the supplier of the safety data sheet

Manufacturer/Supplier : Metsan Endüstriyel Yapıştırıcılar Ticaret Anonim Şirketi
Birlik Organize Sanayi Bölgesi Batı Caddesi 1.Sokak No.1
34953 Tuzla, İstanbul TÜRKİYE
Telefon: +90 444 06 49
Faks: +90 212 253 42 12
Web: www.metsan.gen.tr

Responsibility statement : For further information please contact with following e-mail address, sds@metsan.gen.tr

1.4. Emergency telephone number

Metsan: +90 212 235 52 55 (available from 9:00 to 18:00 GMT+2)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

According to Regulation (EC) No. 1272/2008 [CLP]

Skin corrosion/irritation : Category 2 (H315)
Eye irritation : Category 2 (H319)
Reproductive toxicity : Category 2 (H361)
Specific target organ toxicity- : Category 1 (H372)
Repeated exposure

2.2. Label elements

According to Regulation (EC) No. 1272/2008 [CLP]

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Hazard pictogram(s)

GHS 07



GHS 08



Signal word

Danger

Hazard statement(s)

Physical hazards : Not classified
Health hazards : H315: Causes skin irritation.
H319: Causes serious eye irritation.
H361: Suspected of damaging fertility or the unborn child.
H372: Causes damage to organs through prolonged or repeated exposure.

Environmental hazards : Not classified

Precautionary statement(s)

Prevention : P280: Wear protective gloves/protective clothing/eye protection/face protection.
Response : P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage : P403 + P235: Store in a well-ventilated place. Keep cool.
Disposal : P501: Dispose of contents/container to an appropriate disposal facility.

Supplemental information on label

Not applicable.

2.3. Other hazards

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

This mixture classified as non-flammable according to results from test N.1 test method for readily combustible solids

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SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable for this product.

3.2. Mixtures

Name	CAS No. EC No.	REACH Registration No.	wt%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Unsaturated Polyester resine	-	-	30.0 - <50.0	-
Styrene	100-42-5 202-851-5	01-2119457861-32	13.0 - <18.0	Flam. Liq. 3- H226 Skin Irrit. 2- H315 Eye Irrit. 2- H319 Acute Tox. 4- H332

- Up to the given revision date of this safety data sheet only the above mentioned REACH registration numbers are assigned to the chemical substances used in this mixture.

Additional information

See full text of H-phrases and classification codes in chapter 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Avoid inhalation of vapour or mist. Move to fresh air in case of accidental inhalation of vapours. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice. If symptoms persist, call a physician.

Ingestion

If swallowed, seek medical advice immediately and show this container or label. Do NOT induce vomiting. Keep at rest.

Skin contact

Do NOT use solvents or thinners. Take off all contaminated clothing immediately. Wash skin thoroughly with soap and water or use recognized skin cleanser. If skin irritation persists, call a physician.

Eye contact

Remove contact lenses. Irrigate copiously with clean, fresh water for at least 15 minutes, holding the eyelids apart. Seek medical advice.

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Self-protection of the first aider

Use personal protective equipment as required. Avoid contact with skin, eyes or clothing.

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

Please see practical experience in Section 11.

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

No information available.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Use a fire fighting agent suitable for ordinary combustible material such as water or foam to extinguish.

Unsuitable extinguishing media

Do not use high power water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous combustion products

Closed containers exposed to heat from fire may build pressure and explode. Exposure to extreme heat can give rise to thermal decomposition.

Hazardous decomposition or by-products

Burning of product will give heavy smoke. The original ingredients or unidentified toxic and/or irritant compounds may be present in the combustion fumes. Also, decomposition products may include carbon dioxide, carbon monoxide, nitrogen oxide and sulfur oxide.

5.3. Advice for firefighters

Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture. When fire fighting conditions are severe and total thermal decomposition of the product is possible, wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, tunic and trousers (leggings), bands (around arms, waist and legs), face mask, and protective covering for exposed areas of the head.

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Special protective equipment and fire fighting procedures

There is no specific recommended protective equipment other than suggested above. For further information on protective equipment requirements, please check Section 8.

Additional information

In case of fire, keep containers cool with water spray.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Refer to Section 8 of SDS for personal protection details. If outside do not approach from downwind. If outside keep bystanders upwind and away from danger point. Mark out the contaminated area with signs and prevent access to unauthorized personnel. Turn leaking containers leak-side up to prevent the escape of liquid.

6.2. Environmental precautions

Do not let product enter drains. Notify the respective authorities in accordance with local law in the case of contamination of rivers, lakes or waste water systems. Please avoid any emission of volatile organic compounds as possible.

6.3. Methods and materials for containment and cleaning up

Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container for disposal according to local regulations. The contaminated area should be cleaned up immediately with a suitable decontaminant. One possible (flammable) decontaminant comprises (by volume): water (45 parts), ethanol or isopropyl alcohol (50 parts), concentrated (density: 0,880) ammonia solution (5 parts). After usage of suitable decontaminant, transfer the material to a closable, labelled salvage container for disposal by an appropriate method.

6.4. Reference to other sections

For appropriate self protection equipment, please apply the suggested protection procedures given in Section 8.

For disposal of waste, please see advices in Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Safe handling advice

Avoid inhalation of thermal decomposition products. For industrial or professional use only. Workers should wash hands and face before eating, drinking and smoking. Store work clothes separately from other clothing, food and tobacco products. Do not handle until all safety precautions have been read and understood. Wash contaminated clothing before reuse. Avoid breathing vapors. Contaminated work clothing should not be allowed out of the workplace. See Section 8 for additional information on exposure controls and personal protection.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers

Store in original containers at 10-25°C (50-77°F) and do not leave top of the cartridge open as contamination from air or other environment may reduce the shelf life of the product.

Advice on common storage

Store separately from oxidizing agents, strongly alkaline and strongly acidic materials, amines, alcohols and water. Do not store together with explosives, gases, oxidizing solids, products which form flammable gases in contact with water, oxidizing products, infectious products and radioactive products.

Additional information on storage conditions

Protect against UV and sunlight. Keep away from heat sources and humid media.

7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Community / national occupational exposure limit values

Styrene (CAS No: 100-42-5)				
	Limit value – Eight hours		Limit value – Short term	
	ppm	mg/m ³	ppm	mg/m ³
Australia	50	213	100	426
Austria	20	85	80	340
Belgium	50	216	100	432
Canada (Ontario)	35	-	100	-
Canada (Quebec)	50	213	100	426
Denmark	25	105	25	105

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Finland	20	86	100*	430*
France	50	215	-	-
Germany - AGS	20	86	40*	172*
Germany - DFG	20	86	40*	172*
Hungary	-	50	-	50
Ireland	20	85	40*	170*
Japan	50	-	-	-
Latvia	-	10	-	30*
New Zealand	50	213	100	426
People's Republic of China	-	50	-	100*
Poland	-	50	-	200
Singapore	20	85	40	170
South Korea	20	85	40	170
Spain	20	86	40	172
Sweden	10	43	20*	86*
Switzerland	20	85	40	170
USA - NIOSH	50	215	100*	425*
USA - OSHA	100	-	200	-
United Kingdom	100	430	250	1080

* 15 minutes average value

- OEL values that are given in this subsection are taken from GESTIS International Limit Values database.
- If a component is disclosed in Section 3 but does not appear in the table given above, an occupational exposure limit value is not available for the corresponding component.

Information on monitoring procedures

DN(M)ELs

CAS No.	Chemical name	End use	Exposure routes	Frequency of exposure	Type	Value
100-42-5	Styrene	Workers	Inhalation	Acute	Local	306 mg/m ³
		Workers	Inhalation	Acute	Systemic	289 mg/m ³
		Workers	Inhalation	Chronic	Systemic	85 mg/m ³
		Workers	Dermal	Chronic	Systemic	406 mg/kg bw/day
		Consumers	Oral	Chronic	Systemic	2.1 mg/kg bw/day
		Consumers	Inhalation	Acute	Local	182.75 mg/m ³
		Consumers	Inhalation	Acute	Systemic	174.25 mg/m ³
		Consumers	Inhalation	Chronic	Systemic	10.2 mg/m ³
		Consumers	Dermal	Chronic	Systemic	343 mg/kg bw/day

- If a component is disclosed in Section 3 but does not appear in the table given above, a DN(M)EL is not available for the corresponding component.

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PNECs

CAS No.	Chemical name	Environmental protection target	Value	Extrapolation method
100-42-5	Styrene	Freshwater	0.028 mg/L	Assessment factor: 10
		Marine water	0.014 mg/L	Assessment factor: 20
		Intermittent releases	0.004 mg/L	Assessment factor: 100
		STP	5 mg/L	Assessment factor: 100
		Sediment (freshwater)	0.614 mg/kg sediment dw	Partition coefficient
		Sediment (marine water)	0.307 mg/kg sediment dw	Partition coefficient
		Soil	0.2 mg/kg soil dw	Partition coefficient

- If a component is disclosed in Section 3 but does not appear in the table given above, a PNEC is not available for the corresponding component.

8.2. Exposure controls

Appropriate engineering controls

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Personal protection equipment :



Eye protection : Safety glasses with side shields or chemical safety goggles should be worn if there is a risk of splashing of material.

Skin protection : Hand and other skin protection
Select and use gloves and/or protective clothing approved to relevant local standards to prevent skin contact based on the results of an exposure assessment. Selection should be based on use factors such as exposure levels, concentration of the substance or mixture, frequency and duration, physical

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challenges such as temperature extremes, and other use conditions. Consult with your glove and/or protective clothing manufacturer for selection of appropriate compatible gloves/protective clothing. Gloves made from the following material(s) are recommended:

- Butyl rubber at least 0.5 mm thickness
- Fluoroelastomer at least 0.4 mm thickness

Respiratory protection : In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

Environmental exposure controls

Do not let product enter drains. For ecological information refer to Section 12. Also, check for Environmental Precautions in Section 6.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance : Paste
Color : Light yellow
Odor : Characteristic
Odor threshold : No data available.

Property	Values	Method(s) and remark(s)
pH	Not applicable.	
Melting point/freezing point	Not applicable.	
Initial boiling point and boiling range	>145°C	
Flash point	Not applicable.	
Evaporation rate	Negligible.	
Flammability (solid, gas)	Not applicable.	
Flammability limit in air		
Upper flammability limit	Not applicable.	
Lower flammability limit	Not applicable.	
Vapor pressure	No data available.	

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Vapor density	No data available.	
Relative density	1.60 – 1.64	at 24°C (Ref. water at 24°C)
Solubility(ies)		
In water	Not miscible.	at 25°C
In other solvent(s)	No data available.	
Partition coefficient: n-octanol/water	No data available.	
Auto-ignition temperature	Not applicable.	
Decomposition temperature	No data available.	
Viscosity	No data available.	
Explosive properties	Not classified.	
Oxidising properties	Not classified.	

9.2. Other data

<u>Property</u>	<u>Values</u>	<u>Method(s) and remark(s)</u>
Softening temperature	No data available.	
VOCs content	No data available.	
Density	1.60 – 1.64 g/cm ³	at 24°C

This mixture classified as non-flammable according to results from test N.1 test method for readily combustible solids

SECTION 10: Stability and reactivity

10.1. Reactivity

Keep away from oxidising agents and strongly acid or alkaline materials. Mixture can rapidly react with these materials and produce CO₂. Evolution of CO₂ in closed containers causes overpressure and produces a risk of bursting.

10.2. Chemical stability

The product is chemically stable.

10.3. Possibility of hazardous reactions

Hazardous polymerization reaction may occur in large quantities only.

10.4. Conditions to avoid

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Stable under recommended storage and handling conditions (see Section 7). Avoid any contact with heat sources.

10.5. Incompatible materials to avoid

Refer to reactivity in this section.

10.6. Hazardous decomposition products

Refer to Section 5.2 for hazardous decomposition products during combustion.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

General observations

The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Due to the absence of specific data on the mixture regarding interactions between component substances, relevant health effects of each substance are listed. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Practical experience

No information available

Acute toxicity

CAS No.	Chemical name	Species	Type	Exposure duration	Value	Method(s) and/or reference(s) and/or note(s)
100-42-5	Styrene	Hamster	LD50 Oral	-	>6000 mg/kg bw	-
		Mouse	LC0 Inhalation	1 h	>=0.68 mg/L air	-
		Rat	LD50 Dermal	24h	>2000 mg/kg bw	OECD Guideline 402 (Acute Dermal Toxicity)

Skin corrosion/irritation

CAS No.	Chemical name	Species	Exposure duration	Result	Method(s) and/or reference(s) and/or note(s)
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100-42-5	Styrene	Mouse	5 m	Not interpretable	-
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Serious eye damage/irritation

CAS No.	Chemical name	Species	Exposure duration	Result	Method(s) and/or reference(s) and/or note(s)
100-42-5	Styrene	Bovine lenses	30-60 min	Not interpretable	-

Respiratory or skin sensitisation

CAS No.	Chemical name	Species	Exposure duration	Result	Method(s) and/or reference(s) and/or note(s)
100-42-5	Styrene	Guinea pig	-	Not sensitising	-

Germ cell mutagenicity

CAS No.	Chemical name	Species	Type	Route	Result	Method(s) and/or reference(s) and/or note(s)
100-42-5	Styrene	Salmonella typhimurium strains and E. coli	Gene mutation	In vitro	Not mutagenic.	OECD Guideline 471 (Bacterial Reverse Mutation Assay)
		Mouse	Inhalation	In vivo	Mutagenic.	-

Carcinogenicity

CAS No.	Chemical name	Species	Type	Exposure duration	Result	Method(s) and/or reference(s) and/or note(s)
100-42-5	Styrene	Mouse	Oral	-	No evidence of carcinogenicity.	-

Reproductive toxicity

CAS No.	Chemical name	Species	Type	Exposure duration	Result	Method(s) and/or reference(s) and/or note(s)
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100-42-5	Styrene	Rat	Inhalation	10 days	LOAEC 0.6 mg/L air	-
		Rat	Inhalation	10 days	>=NOAEL 0.6 mg/L air	-

STOT – Single exposure

No information available.

STOT – Repeated exposure

No information available.

Aspiration hazard

No information available.

SECTION 12: Ecological information

12.1. Toxicity

No test data available for the product.

Acute (short-term) toxicity

CAS No.	Chemical name	Species	Exposure duration	Test endpoint	Result	Method(s) and/or reference(s) and/or note(s)
100-42-5	Styrene	Pimephales promelas	96 h	LC50	10 mg/L	OECD Guideline 203 (Fish, Acute Toxicity Test)
		Hyaella azteca	96 h	LC50	9.5 mg/L	-

Chronic (long-term) toxicity

CAS No.	Chemical name	Species	Exposure duration	Test endpoint	Result	Method(s) and/or reference(s) and/or note(s)
100-42-5	Styrene	Ceriodaphnia dubia (invertebrates)	7 days	NOEC	0.06 µg/L	-

Toxicity to aquatic algae and cyanobacteria

CAS No.	Chemical name	Species	Exposure duration	Test endpoint	Result	Method(s) and/or
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						reference(s) and/or note(s)
100-42-5	Styrene	Pseudokirchnerella subcapitata	72 h	EC50	4.9 mg/L	-
		Pseudokirchnerella subcapitata	96 h	EC50	6.3 mg/L	-

12.2. Persistence and degradability

The product can be biodegradable as its ingredients are all classified as biodegradable.

CAS No.	Chemical name	Test type	Study type	Duration	Degradation %	Method(s) and/or reference(s) and/or note(s)
100-42-5	Styrene	Ready biodegradability	ThOD	5 days	65%	-
			ThOD	20 days	87%	
			ThOD	5 days	8%	

12.3. Bioaccumulative potential

CAS No.	Chemical name	Log K _{ow}	BCF	Result	Method(s) and/or reference(s) and/or note(s)
100-42-5	Styrene	1.13	4.2	No evidence of carcinogenicity.	-

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

Based on available data no ingredient is classified for this hazard property (please see section 3).

12.6. Other adverse effects

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 3 for details.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

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Dispose of in accordance with local regulations.

- Product disposal : Contribution of this product to waste is very insignificant in comparison to article in which it is used.
- Packaging disposal : After use, tubes, cartons and bottles containing residual product should be disposed of as chemically contaminated waste in an authorized legal land fill site or incinerated.

Waste disposal number of waste (acc. to European Waste Catalogue)

- 20 01 27 : MUNICIPAL WASTES (HOUSEHOLD WASTE AND SIMILAR COMMERCIAL, INDUSTRIAL AND INSTITUTIONAL WASTES) INCLUDING SEPARATELY COLLECTED FRACTIONS; Paint, inks, adhesives and resins containing dangerous substances
- 16 03 05 : WASTES NOT OTHERWISE SPECIFIED IN THE LIST; off-specification batches and unused products; organic wastes containing dangerous substances
- 07 02 13 : WASTES FROM ORGANIC CHEMICAL PROCESSES; wastes from the MFSU of plastics, synthetic rubber and man-made fibres; waste plastic

SECTION 14: Transport information

14.1. UN number

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR/ICAO-TI*.

14.2. UN proper shipping name

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR/ICAO-TI*.

14.3. Transport hazard class(es)

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR/ICAO-TI*.

14.4. Packaging group

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR/ICAO-TI*.

14.5. Environmental hazards

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR/ICAO-TI*.

14.6. Special precautions for user

Not hazardous according to RID, ADR, ADN, IMDG, IATA-DGR/ICAO-TI*.

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14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable.

* This mixture classified as non-flammable according to results from test N.1 test method for readily combustible solids. Therefore, it must be transported as non-hazardous product.

SECTION 15: Regulatory information

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

Australia (AICS)

All ingredients are on the inventory or exempt from listing.

Canada (DSL)

All ingredients are on the inventory or exempt from listing.

Canada (NDSL)

None of the ingredients are on the inventory of NDSL.

China (IECSC)

All ingredients are on the inventory or exempt from listing.

European Union (EINECS)

All ingredients are on the inventory or exempt from listing.

European Union (ELINCS)

None of the ingredients are on the inventory of ELINCS.

Japan (ENCS)

All ingredients are on the inventory or exempt from listing.

Philippines (PICCS)

All ingredients are on the inventory or exempt from listing.

South Korea (KECI)

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Taiwan (TCSI)

All ingredients are on the inventory or exempt from listing.

United States of America (TSCA)

All ingredients are on the inventory or exempt from listing.

15.2. Chemical Safety Assessment

No safety checks were carried out on the mixture.

SECTION 16: Other information

Information taken from reference works and the literature

This SDS is prepared via using latest available SDS of ingredients that are provided from the manufacturers. Also, to confirm the validity of data and to give all necessary information, several databases are used. This references are listed below.

Substance number	: CAS No. – https://scifinder.cas.org
OEL values	: GESTIS – http://limitvalue.ifa.dguv.de/
DN(M)EL and PNEC values	: ECHA – http://echa.europa.eu/information-on-chemicals
Inventories given in Section 15	: AICS – http://nicnas.gov.au/search DSL & NDSL – http://ec.gc.ca/lcpe-cepa/eng/substance/chemicals_polymers.cfm IECSC – http://cciss.cirs-group.com/ EINECS & ELINCS– http://echa.europa.eu/information-on-chemicals/ec-inventory ENCs – http://safe.nite.go.jp/english/db.html KECI – http://ncis.nier.go.kr/totinfo/TotInfoList.jsp PICCS – http://119.92.161.5/internal/public/searchprojects.aspx TCSI - http://csnn.osha.gov.tw/content/home/index.aspx TSCA - http://www.epa.gov/tsca-inventory

Abbreviations and acronyms

ADN	: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
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according to Regulation (EC) No. 1907/2006(REACH) with its amendment Regulation (EC) No. 2015/830

ADR	: European Agreement concerning the International Carriage of Dangerous Goods by Road
AGS	: The German Committee on Hazardous Substances
AICS	: Australian Inventory of Chemical Substances
ATE	: Acute Toxicity Estimate
BCF	: Bioconcentration factor
BOD	: Biological Oxygen Demand
CAS	: Chemical Abstracts Service
CLP	: Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DFG	: German Research Foundation
DN(M)EL	: Derived No (Minimal) Effect Level
DOT	: Department of Transportation (USA)
DSD	: Dangerous Substances Directive 67/548/EEC
DSL	: Domestic Substances List
EC	: European Community
EC0	: Effective Concentration that Produces a Stimulation Index of 0
EC3	: Effective Concentration that Produces a Stimulation Index of 3
EC50	: Half Maximal Effective Concentration
EINECS	: European Inventory of Existing Commercial Substances
ELINCS	: European List of notified Chemical Substances
EN	: European Standard
ENCS	: Japanese Existing and New Chemical Substances Inventory
GHS	: Globally Harmonized System
IATA	: International Air Transport Association
ICAO-TI	: Technical Instructions for the Safe Transport of Dangerous Goods by Air
IECSC	: Inventory of Existing Chemical Substances in China
IMDG	: International Maritime Dangerous Goods
KECI	: Korea Existing Chemicals Inventory
LC50	: Lethal Concentration to 50 % of a test population

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LD50	: Lethal Dose to 50% of a test population (Median Lethal Dose)
LOEC	: Lowest Observable Effect Concentration
Log K _{ow}	: Log10 of octanol-water partition coefficient
NDSL	: Non-Domestic Substances List
NIOSH	: The National Institute for Occupational Safety and Health
NOEC	: No Observed Effect Concentration
OECD	: Organization for Economic Co-operation and Development
OEL	: Occupational Exposure Limit
OSHA	: Occupational Safety & Health Administration
OSHA	: European Agency for Safety and Health at work
PBT	: Persistent, Bioaccumulative and Toxic substance
PICCS	: Philippine Inventory of Chemicals and Chemical Substances
PNEC	: Predicted No Effect Concentration
REACH	: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	: Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	: Safety data sheet
STOT	: Specific Target Organ Toxicity
TCSI	: Taiwan Chemical Substance Inventory
TOC	: Total Organic Carbon
TSCA	: Toxic Substances Control Act
VOC	: Volatile Organic Compound
vPvB	: Very Persistent and Very Bioaccumulative

Full text of classification codes

Acute Tox. 4	: Acute toxicity – Category 4
Eye Irrit. 2	: Eye damage/eye irritation – Category 2
Flam. Liq. 3	: Flammable liquid – Category 3
Skin Irrit. 2	: Skin corrosion/irritation – Category 2

Full text of H phrases with no. appearing in Section 3

H315	: Causes skin irritation
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H319	: Causes serious eye irritation
H332	: Harmful if inhaled
H361	: Suspected of damaging fertility or the unborn child
H372	: Causes damage to organs through prolonged or repeated exposure

Revision changes

Version 5.5 – Classifications and pictograms under Section 2 are revised.

Version 5.4 – Section 14 is revised by depending on latest test results of the product.

Version 5.3 – Section 2 and 9 are revised.

Version 5.2 – Section 2, Section 3, Section 9 and Section 14 are revised.

Version 5.1 – Precautionary statements listed under Label elements in Section 2 are revised.

Version 5.0 - All sections and data are modified to comply with Regulation (EC) No.

1907/2006(REACH) with its amendment Regulation (EC) No. 2015/830.

Composer of Safety Data Sheet

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Certificate number: GBF-A-0-2398

Additional information

EMS Dubell® is a registered trademark of Metsan Endüstriyel Yapıştırıcılar Ticaret A.Ş.

Disclaimer

This company shall not be held liable for any damage resulting from handling or from contact with the above product. The information of this SDS is based on the present state of our knowledge and meets the requirements of EU and national laws. The user's working conditions however, are beyond our knowledge and control. The product is not to be used for purposes other than those specified under Section 1 without a written permission. It remains the responsibility of the user to ensure that the necessary steps are taken to meet the laws and regulations. Handling of the product may only be done by people above 18 years of age, who are satisfactorily informed on how to do the work, the hazardous properties and necessary safety precautions. The information given in this SDS is to describe the product only in terms of health and safety requirements and should not, therefore, be construed as guaranteeing specific properties.