

SAFETY DATA SHEET



REG EUADD0

Product: **DP2110 DUPONT™ MARINE FINISHES HS ACTIVATOR SLOW**

DP2110

Print Date: 02.05.2005

Version: 1.0

Revision Date: 16.04.2005

Page: 1/7

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

Identification of the substance or preparation

- Commercial Product Name: DP2110 DUPONT™ MARINE FINISHES HS ACTIVATOR SLOW
- Intended use of the substance/preparation: Coating for professional use

Manufacturer, importer, supplier

- Producer/Supplier: Du Pont de Nemours (Belgium)
- Street/Box: A. Spinoystraat 6
- Nat.-Code/Postal code/City: B-2800 MECHELEN
- Telephone: +32-(0)15-44.10.11
- Responsible Department: Regulatory Affairs
- Telephone: ++49 (0)202 529 2385
- Emergency telephone: +35236666543, +31(0)786301899

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical characterization of the product

- Hazardous components:
Substances presenting a health or environmental hazard within the meaning of the DSD 67/548/EEC incl. 28. ATP

EINECS-No.	CAS-No.	Chemical Name	Concentration	Classification
500-060-2	28182-81-2	polyisocyanate, aliphatic	50,00 - < 75,00 %	R43
212-112-9	763-69-9	ethyl 3-ethoxypropionate	5,00 - < 7,00 %	R52/53
203-603-9	108-65-6	2-methoxy-1-methylethyl acetate	5,00 - < 7,00 %	R10 Xi; R36
203-933-3	112-07-2	2-butoxyethyl acetate	5,00 - < 7,00 %	Xn; R20/21
204-658-1	123-86-4	n-butyl acetate	3,00 - < 5,00 %	R10 R66 R67
215-535-7	1330-20-7	xylene	2,00 - < 3,00 %	R10 Xn; R20/21 Xi; R38
265-199-0	64742-95-6	solvent naphtha (petroleum), light arom.	1,00 - < 2,00 %	R10 Xn; R65 R66 R67 ; Nota H, Nota P
202-436-9	95-63-6	1,2,4-trimethylbenzene	1,00 - < 2,00 %	R10 Xn; R20 Xi; R36/37/38 N; R51/53
212-485-8	822-06-0	hexamethylene-di-isocyanate	0,10 - < 0,20 %	T; R23 Xi; R36/37/38 R42/43

- Additional advice:
See full text of R-phrases in chapter 16.

3. HAZARDS IDENTIFICATION

The product is classified as dangerous in accordance with Directive 1999/45/EC.

- Human health hazards:
Classification : - flammable - sensitizing - sensitizing
Flammable. May cause sensitization by skin contact. May cause sensitization by inhalation.

4. FIRST AID MEASURES

- General advice:
When symptoms persist or in all cases of doubt seek medical advice. Never give anything by mouth to an unconscious person.
- Inhalation:

SAFETY DATA SHEET



REG EUADD0

Product: **DP2110 DUPONT™ MARINE FINISHES HS ACTIVATOR SLOW**

15 FG-69093

Print Date: 02.05.2005

Version: 1.0

Revision Date: 16.04.2005

Page: 2/7

Remove to fresh air. Keep patient warm and at rest. If breathing is irregular or stopped, administer artificial respiration. If unconscious place in recovery position and seek medical advice.

- Skin contact:
Do NOT use solvents or thinners. Wash skin thoroughly with soap and water or use recognized skin cleanser.
- Eye contact:
Remove contact lenses. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart. Seek medical advice.
- Ingestion:
If accidentally swallowed obtain immediate medical attention. Keep at rest. Do not induce vomiting.

5. FIRE-FIGHTING MEASURES

- Suitable extinguishing media:
alcohol-resistant foam, carbon dioxide (CO₂), dry powder, water spray
- Extinguishing media which must not be used for safety reasons:
high volume water jet
- Special exposure hazards from the product itself, combustion products, resulting arising gases:
Fire will produce dense black smoke containing hazardous combustion products (see heading 10).
Exposure to decomposition products may be a hazard to health.
- Special protective equipment for fire-fighters:
Respiratory protective device may be required.
- Additional advice:
Cool closed containers exposed to fire with water spray.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions:
Keep away from sources of ignition. Air out the room. Do not inhale vapours. Comply with safety directives (see chapters 7 and 8).
- 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.
- Methods for cleaning up:
Contain and collect spillage with non-combustible absorbent materials, e.g. sand, earth, vermiculite, diatomaceous earth and place in container. Place in a suitable container. 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 (d : 0,880) ammonia solution (5 parts). A non-flammable alternative is sodium carbonate (5 parts), water (95 parts). Add the same decontaminant to the remnants and let stand for several days until no further reaction in non-sealed container. Once this stage is reached, close container and dispose according to local regulations (see section 13).

7. HANDLING AND STORAGE

Handling

Persons with a history of asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is used.

- Safe handling advice:
Prevent the creation of flammable or explosive concentrations of vapour in air and avoid vapour concentration higher than the occupational exposure limits. The product should only be used in areas from which all naked lights and other sources of ignition have been excluded.
When operators, whether spraying or not, have to work inside the spraybooth, ventilation is unlikely to be sufficient to control particulates and solvent vapour in all cases. Particularly for spray mist the sustained certain compliance with the limitation on respirable dust is improbable. Particularly for spray mist compliance with the limitation on respirable dust is improbable.

- Advice on protection against fire and explosion:
Solvent vapours are heavier than air and may spread along floors. Vapours may form explosive mixtures with air.

Storage

- Advice on common storage:
Keep away from oxidising agents, strongly acid or alkaline materials, as well as of amines, alcohols and water.
- Additional information on storage conditions:
Always keep in containers of same material as the original one. Precautions should be taken to avoid exposure to atmospheric humidity or water. Evolution of CO₂ in closed containers causes overpressure and produces a risk of bursting.

SAFETY DATA SHEET



REG EUADD0

Product: **DP2110 DUPONT™ MARINE FINISHES HS ACTIVATOR SLOW**

15 FG-69093

Print Date: 02.05.2005

Version: 1.0

Revision Date: 16.04.2005

Page: 3/7

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Persons with a history of skin sensitisation problems or asthma, allergies, chronic or recurrent respiratory disease should not be employed in any process in which this preparation is being used.

Additional technical information on the plant

Provide adequate ventilation. Air-fed protective respiratory equipment must be worn by spray operator even when good ventilation is provided.

Exposure limit values

CAS-No.	Chemical Name	Type	Value	Note
112-07-2	2-butoxyethyl acetate	TWA	20,00 ml/m3	
123-86-4	n-butyl acetate	TWA	150,00 ml/m3	
		STEL	200,00 ml/m3	
1330-20-7	xylene	STEL	150,00 ml/m3	
		TWA	100,00 ml/m3	
95-63-6	1,2,4-trimethylbenzene	STEL	25,00 ml/m3	
822-06-0	hexamethylene-di-isocyanate	TWA	0,005 ml/m3	

- Additional advice:
(A.C.G.I.H. Treshold Limit Values) 2003.

Exposure controls

- Respiratory protection:
For spraying: air-fed respirator. For operations other than spraying: in well ventilated areas, air-fed respirators could be replaced by a combination of charcoal filter and particulate filter mask.
- Hand :

	Glove material	Glove thickness	Break through time
2-butoxyethyl acetate	nitrile rubber	0,33 mm	480 minute
	Viton	0,7 mm	480 minute
n-butyl acetate	nitrile rubber	0,33 mm	30 minute
	Viton	0,7 mm	10 minute
xylene	nitrile rubber	0,33 mm	30 minute
	Viton	0,7 mm	480 minute
solvent naphtha (petroleum), light arom.	Viton	0,7 mm	30 minute

The protective glove should be checked in each case for their work specific suitability (e.g. mechanical stability, product compatibility, and anti-static properties). When the intended use is for spray application a nitrile glove of the chemical resistance group 3 (e.g. Dermatril® glove) is to be used. After contamination, the glove has to be changed. If immersing the hands into the product is not avoidable (e.g. maintenance work) a butyl or fluorocarbon rubber glove should be used. When skin exposure may occur to materials specified in chapter 2 of this SDS, advice should be sought from the glove supplier as to appropriate type to use with this product and the permeation breakthrough times. Cleaning solvents or viscosity adjustment thinners require special hand protection, a fluorocarbon rubber glove should be used. Solvents are to be used only for adjusting the viscosity. Care should be taken when working with sharp edged articles as these can easily damage the gloves and make them ineffective. The instructions and information provided by the glove supplier on use, storage, maintenance and replacement must be followed. Damaged gloves or those showing signs of wear should be replaced immediately. Preventive skin protection such as skin protective cream is recommended. Work tasks should be arranged in such a way that gloves do not have to be worn continuously.

- Eye protection:
Wear protective eyewear for protection against solvent spatter.
- Skin protection:
Personnel should wear antistatic clothings made of natural fiber or of high temperature resistant synthetic fiber.
- Protective measures / Hygiene measures:
Wash skin thoroughly with soap and water or use recognized skin cleanser. Do not use organic solvents!

Environmental exposure controls

¹ Note:

H: Skin resorbitive

Y: There is no need to fear risk of fetal damage if complying with the MWC and the BWST values.

SAFETY DATA SHEET



REG EUADD0

Product: **DP2110 DUPONT™ MARINE FINISHES HS ACTIVATOR SLOW**

15 FG-69093

Print Date: 02.05.2005

Version: 1.0

Revision Date: 16.04.2005

Page: 4/7

Do not let product enter drains.
For ecological information refer to chapter 12.

9. PHYSICAL AND CHEMICAL PROPERTIES

General information (appearance)

Physical state: liquid Colour: colourless

Important health, safety and environmental information

	Value	Method
- Flash point:	37 °C	DIN 53213/ISO 1523
- Ignition temperature:	272 °C	DIN 51794
- Lower explosion limit (Vol.):	1,0 %(V)	
- Upper explosion limit (Vol.):	10,3 %(V)	
- Vapour pressure (20 °C):	1,2 hPa	
- Relative density (20 °C):	1,08 g/cm ³	
- Water solubility:	insoluble	
- Viscosity (23 °C):	< 40 s	ISO 2431-1993 6,0 mm
- Solvent separation test:	<3%	ADR/RID

10. STABILITY AND REACTIVITY

- Conditions to avoid:
Stable under recommended storage and handling conditions (see section 7).
- Materials to avoid:
Keep away from oxidising agents and strongly acid or alkaline materials. Amines and alcohols cause exothermic reactions. Preparation reacts slowly with water resulting in evolution of CO₂. Evolution of CO₂ in closed containers causes overpressure and produces a risk of bursting.
- Hazardous decomposition products:
When exposed to high temperatures may produce hazardous decomposition products such as carbon monoxide and dioxide, smoke, oxides of nitrogen as well as hydrogen cyanide, amines, alcohols and water.

11. TOXICOLOGICAL INFORMATION

Practical experience

- Further observations:
Based on the properties of the isocyanate components and considering toxicological data on similar products, the following applies:
This formulation may cause acute irritation and/or sensitization of the respiratory system leading to an asthmatic condition, wheeziness and a tightness of the chest.
Sensitized persons may subsequently show asthmatic symptoms when exposed to atmospheric concentrations well below the OEL.
Repeated exposure may lead to permanent respiratory disability.
Symptoms and signs include headache, dizziness, fatigue, muscular weakness, drowsiness and in extreme cases, loss of consciousness.
Through skin resorption, solvents can cause some of the effects described here.
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.
The liquid splashed in the eyes may cause irritation and reversible damage.
2-butoxyethanol and its acetate are readily absorbed through the skin and will cause harmful effects on the blood.

General observations

There are no data available on the product itself. See sections 2 and 15 for details.

12. ECOLOGICAL INFORMATION

Ecotoxicity

- Acute toxicity aquatic invertebrates :

EINECS-No.	Chemical Name	Species	Exposure time	Value	Type	Method
203-933-3	2-butoxyethyl acetate	Daphnia	24 hour	> 100 mg/l	EC50	
204-658-1	n-butyl acetate	Daphnia	24 hour	72,8 mg/l	EC50	
212-485-8	hexamethylene-di-isocyanate	Daphnia	48 hour	89,1 mg/l	EC0	OECD Test Guideline 202

|| - Acute and extended toxicity of fishes :

SAFETY DATA SHEET



REG EUADD0

Product: **DP2110 DUPONT™ MARINE FINISHES HS ACTIVATOR SLOW**

15 FG-69093

Print Date: 02.05.2005

Version: 1.0

Revision Date: 16.04.2005

Page: 5/7

EINECS-No.	Chemical Name	Species	Exposure time	Value	Type	Method
203-933-3	2-butoxyethyl acetate	Leuciscus idus	48 hour	10 - 100 mg/l	LC50	
204-658-1	n-butyl acetate	Golden orfe	48 hour	71 mg/l	LC50	DIN 38412
212-485-8	hexamethylene-di-isocyanate	Cyprinodon variegatus (sheepshead minnow)	96 hour	82,8 mg/l	LC0	OECD Test Guideline 203

- Toxicity with aquatic plants :

EINECS-No.	Chemical Name	Species	Exposure time	Value	Type	Method
203-933-3	2-butoxyethyl acetate	scenedesmus subspicatus	72 hour	> 100 mg/l	EC50	
204-658-1	n-butyl acetate	scenedesmus quadricauda	192 hour	21 mg/l	EC50	
212-485-8	hexamethylene-di-isocyanate	scenedesmus quadricauda	72 hour	77,4 mg/l	EC50	OECD Test Guideline 201

- Toxicity with micro organisms :

EINECS-No.	Chemical Name	Species	Exposure time	Value	Type	Method
204-658-1	n-butyl acetate	Daphnia magna	18 hour	959 mg/l	EC50	DIN 38412
212-485-8	hexamethylene-di-isocyanate	Effect on activated sludge		842 mg/l	EC50	

Mobility

no data available

Persistence and degradability

no data available

Bioaccumulative potential

no data available

Other adverse effects

The preparation was evaluated in accordance with the conventional method of the preparation directive 1999/45/EG and was not classified as environmental dangerous. The preparation was evaluated in accordance with the conventional method of the preparation directive 1999/45/EG, and not classified as environmentally dangerous, but contains environmentally dangerous materials. For details, see section 2.

Additional ecological information

There are no data available on the product itself. The product should not be allowed to enter drains or watercourses. Do not let product enter drains.

13. DISPOSAL CONSIDERATIONS

Product

- Recommendation:

The conversion into energy disposal process is recommended. To the extent not possible only the hazardous waste incineration is suitable.

Uncleaned packaging

- Recommendation:

Properly emptied containers are to be scrap processed or reconditioned. Improperly emptied containers are considered hazardous waste (waste key number 150110).

14. TRANSPORT INFORMATION

Transport only in accordance with the requirements of the Carriage of Dangerous Goods by Road and Rail (Classification, Packaging and Labeling), ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport.

Land transport

ADR/RID :

- Class: 3
- UN-No: 1263
- Description of the goods: PAINT RELATED MATERIAL
- Packing group: III
- Release of danger:

SAFETY DATA SHEET



REG EUADD0

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15 FG-69093

Print Date: 02.05.2005

Version: 1.0

Revision Date: 16.04.2005

Page: 6/7

Sea transport

IMDG:

- Class: 3
- UN-No: 1263
- EmS: 3-05
- Marine pollutant: NO

- Proper technical name: PAINT RELATED MATERIAL
- Packing group: III
- Release of danger:

Air transport

ICAO/IATA:

- Class: 3
- UN/ID No.: 1263
- Proper technical name: PAINT RELATED MATERIAL
- Packing group: III
- Release of danger:

15. REGULATORY INFORMATION

In accordance with the CHIP Regulations 2002 the product is labelled as follows:

- Symbol and indicating of hazard:
Xn Harmful

- Contains: polyisocyanate, aliphatic

- R-phrases(s):
R10 Flammable.
R42/43 May cause sensitization by inhalation and skin contact.

- || - **S-phrases(s):**
- S23 Do not breathe vapour.
- S24 Avoid contact with skin.
- S37 Wear suitable gloves.
- || S45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- S46 If swallowed, seek medical advice immediately and show this container or label.
- || S51 Use only in well-ventilated areas.
- S98 Do not ingest!

- Exceptional labelling of special preparations:
Contains isocyanates. See information supplied by the manufacturer.

- Other directives, limitations and prohibitory regulations:
Restricted to professional users.

16. OTHER INFORMATION

Full text of R phrases with no. appearing in section 2:

- R10 Flammable.
- R20 Harmful by inhalation.
- R20/21 Harmful by inhalation and in contact with skin.
- R23 Toxic by inhalation.
- R36 Irritating to eyes.
- R36/37/38 Irritating to eyes, respiratory system and skin.
- R38 Irritating to skin.
- R42/43 May cause sensitization by inhalation and skin contact.
- R43 May cause sensitization by skin contact.
- R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R52/53 Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R65 Harmful: may cause lung damage if swallowed.
- R66 Repeated exposure may cause skin dryness or cracking.
- R67 Vapours may cause drowsiness and dizziness.

Further information

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

SAFETY DATA SHEET



REG EUADD0

Product: *DP2110 DUPONT™ MARINE FINISHES HS ACTIVATOR SLOW*

15 FG-69093

Print Date: 02.05.2005

Version: 1.0

Revision Date: 16.04.2005

Page: 7/7

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. 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.