

https://www.mdsystem.com - IMDS - Mozilla Firefox

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EDS Test the IMDS-a2 ! >>>

Managing material data sheets for the automotive industry

The International Material Data System (IMDS) enables you to create material data sheets on your computer in a secure and comfortable manner. The system offers a broad range of innovative capacities being updated continuously.

For further information please contact the [IMDS Service Center](#).

Here you can download the up-to-date IMDS user manual as [PDF](#) or as [ZIP](#).

Additionally a quick reference for creating an MDS can be downloaded as [PDF](#)- or [ZIP](#)-file.

Recommendation IMDS 011
Nonmetallic Coatings
mono- and multi-layer systems

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Nonmetallic Coatings

(mono- and multi-layer systems)

e.g. Paints, Enamels, Metal-Flake (Pigment-) Coatings

- Putting together a material datasheet for a
Mono Coat (one layer paint) **p. 3-8**

- Putting together a material datasheet for a
Paint System (multi layer paint / enamel)
of Primer, Basecoat and Clearcoat **p.9-18**

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MATERIAL DATA SYSTEM

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**Putting together a material
datasheet for a *Mono Coat*
(*one layer paint*)**

IMDS international Material Data System

The *Mono Coat* has to be described *after the heat treatment* (drying, curing, hardening process). Solvents as contained in the liquid paint must NOT be reported.

- *The Mono Coat consists of Binder (cross-linked resin), Pigments, Fillers and Additives.*
- *The binders can be found in the IMDS substance database as pseudo-substances (see the following pages)*

Substances of a Mono Coat (single paint layer)

IMDS international Material Data System

Basic Duromers are listed in the IMDS

<input checked="" type="radio"/> <u>Component</u>	<input type="radio"/> <u>Semi-component</u>	<input type="radio"/> <u>Material</u>	<input type="radio"/> Basic Substance	<input type="radio"/> <u>All MDS/Modules</u>
---	---	---------------------------------------	---------------------------------------	--

Name / Synonym:	Basic Duromer:*
CAS No.:	
EU-Index:	
Einecs-No.:	
Group:	<div></div>
GADSL category	duty-to-declare: <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N.A. prohibited: <input type="radio"/> Yes <input type="radio"/> No <input checked="" type="radio"/> N.A.

How to find the Binders (Basic Duromers, Thermosets, Resins) in the IMDS

IMDS international Material Data System

Basic Duromers are listed in the IMDS

Search Criteria: Name=Basic duromer

38 items found, displaying 1 to 23.

◀ [1] [2] ▶

No.	Name	CAS No.	EU-Index	Einecs-No.	Synonym	GADSL
1	Acrylate Urethane Oligomer	-	-	-	Basic Durom...	-
2	Acrylic resin	-	-	-	Basic Durom...	-
3	Alcylphenolic resin	-	-	-	Basic Durom...	-
4	Anionic polyurethane resin	-	-	-	Basic Durom...	-
5	Bisphenol A resin	-	-	-	Basic Durom...	-
6	Brominated epoxy resin	-	-	-	Basic Durom...	-
7	Butyl titanate	-	-	-	Basic Durom...	-
8	Carboxy Terminated Polyes...	-	-	-	Basic Durom...	-
9	Carboxyl Functional Polyest...	-	-	-	Basic Durom...	-
10	Cellulose Acetate Butyrate r...	-	-	-	Basic Durom...	-
11	Copolymer of modified epox...	-	-	-	Basic Durom...	-
12	Copolymer of modified poly...	-	-	-	Basic Durom...	-
13	cresol resin	-	-	-	Basic Durom...	-
14	Cyclohexanone formaldehy...	25054-06-2	-	-	Basic Durom...	-

How to find the Binders (Basic Duromers, Thermosets, Resins) in the IMDS

IMDS international Material Data System

Example: Alcylphenolic resin

Basic substance data:		GADSL category:	
CAS No.:	-	<input type="checkbox"/> duty-to-declare	
EU-Index:	-	<input type="checkbox"/> prohibited	
Einecs/Elinecs No.:	-	State: active	
Basic substance groups:			
-			

German	
Name:	Alcylphenolharz
Synonym: 1	Basisduomer: Alcylphenolharz (Teil eines polymeren Netzwerkes)
Synonym: 2	
Synonym: 3	Kunstharz: Alcylphenol

2. Language: English	
Name:	Alcylphenolic resin
Synonym: 1	Basic Duomer: Alcylphenolic resin (Compound of polymeric network)
Synonym: 2	
Synonym: 3	Resin: Alcylphenol

How to find the Binders (Basic Duomers, Thermosets, Resins) in the IMDS

IMDS international Material Data System

GADSL

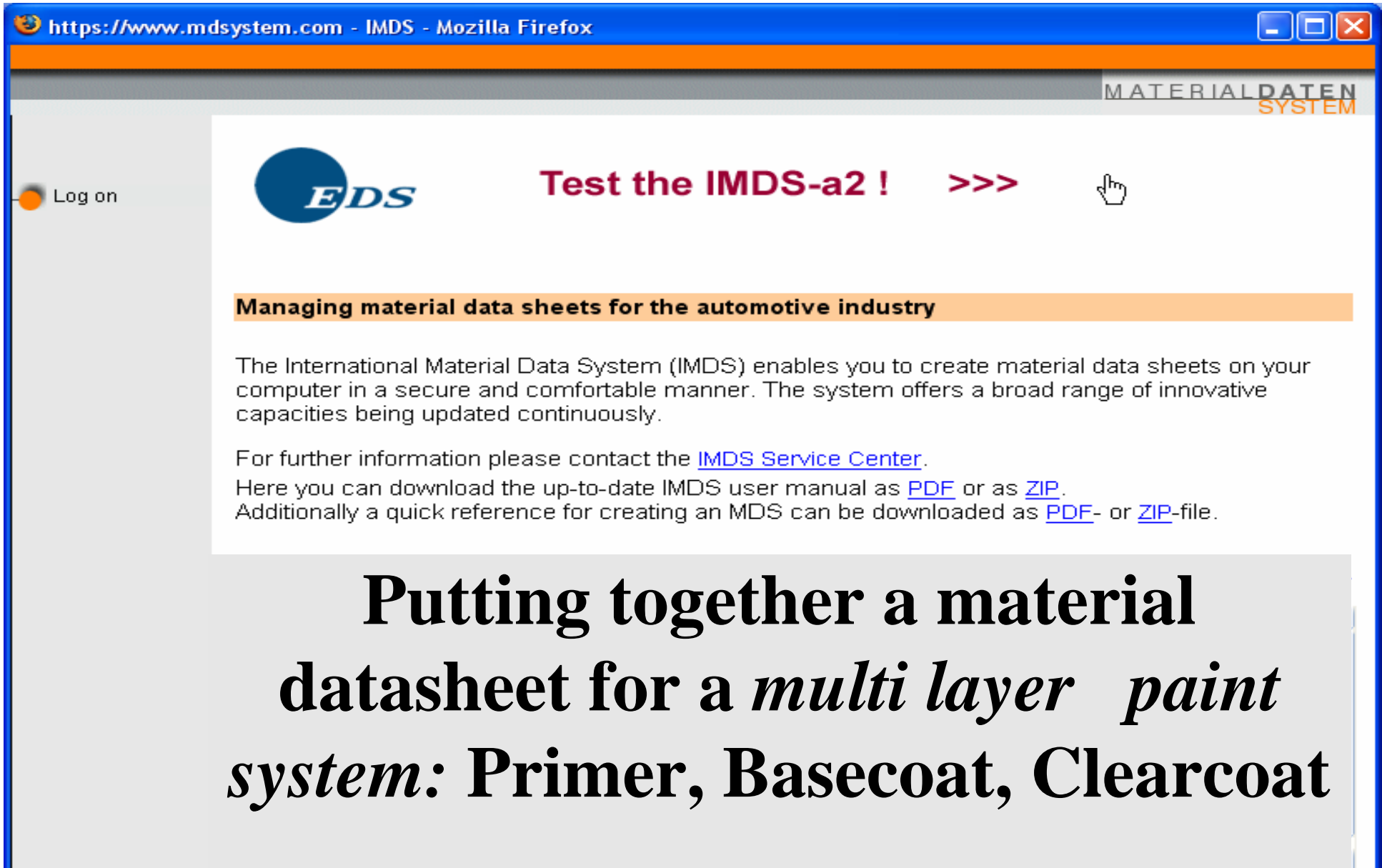
Mono Coat (Example)

- Epoxy resin 19-21%
- Phenolic Resin 10-12%
- Polyvinylbutyral resin 15-17%
- Silica, amorphous 3-5%
- Carbon black 2-3%
- Trizinc bis(orthophosphate) 1-2%
- Talc (Magnesium silicate) Rest(45%)

Details

Type	Material (Module)		
ID / Version	50178552 / 0.01		
Name	Mono Coat (Example	(EN)	▼
Trade name	Kleramol 4431	(EN)	▼
Internal Mat.-No.	K443321		
Std. Mat.-No.			
Symbol			
Classification	Lacquers	Search	
Norms/ Standards	<div style="position: absolute; top: -10px; right: 0;">▲</div> <div style="position: absolute; bottom: -10px; right: 0;">▼</div>		
Inhouse Norms	<div style="position: absolute; top: -10px; right: 0;">▲</div> <div style="position: absolute; bottom: -10px; right: 0;">▼</div>		
Supplier	Kleramol AG		
Remark	Paint after heat treatment (dry, cured, hardened)		

**Example: Substances contained in a Mono Coat (one layer paint)
consisting of *Binders (cross linked)*, *Pigments*, *Fillers* and *Additives*.**



The screenshot shows a web browser window with the address bar displaying "https://www.mdsystem.com - IMDS - Mozilla Firefox". The website header includes the "MATERIAL DATA SYSTEM" logo. On the left, there is a "Log on" button. The main content area features the "EDS" logo, a red button labeled "Test the IMDS-a2 ! >>>" with a hand cursor, and a section titled "Managing material data sheets for the automotive industry". Below this, a paragraph describes the IMDS system, followed by links to the "IMDS Service Center", a PDF user manual, and a ZIP file for creating an MDS.

Log on

EDS

Test the IMDS-a2 ! >>>

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Putting together a material datasheet for a *multi layer paint* system: Primer, Basecoat, Clearcoat

IMDS international Material Data System

The *paint system* must be described in its cured state (*after the heat treatment*, dry, hardened). Solvents as contained in the liquid paint must NOT be reported.

The different layers of the paint system can be described separately.

Example: Paint System with 3 layers

- **Primer**
- **Basecoat**
- **Clearcoat**

Substances of a Paint System (multi layer)

IMDS international Material Data System

Example: Primer

- The material datasheet (MDS) of the primer was created as a composed material
It is possible to create the MDS as one material as well (see Mono Coat p. 3-8).
- The Primer consists of the material components **Binder(s)** (cross linked), **Pigments** and **Additives**

Substances of a Primer

IMDS international Material Data System

GADSL

+

Primer (Example)

- [-] Binder (cross linked) - Primer Component

Polyurethane resin
 Melamine resin
- [-] Pigments - Primer Component

Barium sulphate
 Carbon black
 Rutile (TiO₂)
- [-] Additives - Primer Component

Dimethylpolysiloxane
 2-(2H-Benzotriazol-2-yl)-4,6-

75-80%

80-85%

Rest

15-20%

30-40%

10-15%

Rest

5-6%

10-15%

Rest

Details

Type	Material (Module)	
ID / Version	50179186 / 0.01	
Name	<input type="text" value="Primer (Example)"/>	(EN)
Trade name	<input type="text"/>	(EN)
Internal Mat.-No.	<input type="text"/>	
Std. Mat.-No.	<input type="text"/>	
Symbol	<input type="text"/>	
Classification	Lacquers	<div style="border: 1px solid #ccc; padding: 2px 5px;">Search</div>
Norms/ Standards	Alternatively you may describe the Primer as one material (see Mono Coat)	

Substances of a Primer

IMDS international Material Data System

Example: Basecoat

- The material datasheet (MDS) of the **Basecoat** was **created as a composed material**
It is possible to create the MDS as one material as well (see Mono Coat p. 3-8).
- The Basecoat consists of the material components **Binder(s)** (cross linked), **Pigments** and **Additives**

Substances of a Basecoat

IMDS international Material Data System

GADSL
▼

Basecoat (Example)

- [-] Binder - Basecoat Component **80-90%**
 - ▲ Polyester resin **27-37%**
 - ▲ Melamine resin **25-35%**
 - ▲ Acrylic resin **17-22%**
 - ▲ Cellulose Acetate Butyrate **Rest**
- [-] Pigments - Basecoat Component **8.5-18.5%**
 - ▲ Barium sulphate **26.6-36.6%**
 - ▲ Mica-group minerals **28.1-38.1%**
 - ▲ Rutile (TiO₂) **20-30%**
 - ▲ Carbon black **6.4-8.4%**
 - ▲ Misc., not to declare **1-2%**
 - ▲ Chromium(III)oxide **0.2-1.2%**
 - ▲ 6,15-Dihydroanthrazine-1,4-dione **0.2-1.2%**
- [-] Additive - Basecoat Component **1-1.6%**
 - ▲ 2-(2H-Benzotriazol-2-yl)phenol **80-90%**
 - ▲ Dimethylpolysiloxane **Rest**

Details

Type	Material (Module)
ID / Version	50179679 / 0.01
Name	Basecoat (Example)
Trade name	<input type="text"/>
Internal Mat.-No.	<input type="text"/>
Std. Mat.-No.	<input type="text"/>
Symbol	<input type="text"/>
Classification	Lacquers
Norms/ Standards	<input type="text"/>
Inhouse Norms	<input type="text"/>
Supplier	<input type="text"/>

Alternatively you may describe the
Primer as one material
(see Mono Coat)

Substances of a Basecoat

IMDS international Material Data System

Example: Clearcoat

- The material datasheet (MDS) of the Clearcoat was created as a composed material
It is possible to create the MDS as one material as well (see Mono Coat p. 3-8)
- The Clearcoat consists of the material components **Binder(s)** (cross linked) and **Additives**

Substances of a Clearcoat

IMDS international Material Data System

GADSL

Clearcoat (Example)

Binder - Clearcoat Component

90-94%

Acrylic resin

46-56%

Polyester resin

20-30%

Polyurethane resin

10-15%

Melamine resin

Rest

Additive - Clearcoat Component

6-10%

Silicon dioxide

35-45%

Phenol, 2-(2H-benzotriazol-2-yl)

Rest

Details

Type	Material (Module)
ID / Version	50179954 / 0.01
Name	Clearcoat (Example)
Trade name	
Internal Mat.-No.	
Std. Mat.-No.	

**Alternatively you may describe the
Primer as one material
(see Mono Coat)**

Substances of a Clearcoat

Dr. Traiser

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IMDS international Material Data System

The paint system can be described by combining composed materials and/or materials

- Primer
- Basecoat
- Clearcoat

Substances of a multi layer paint system (enamel)

IMDS international Material Data System

GADSL

Paint System (Example)

Primer (Example)

Binder (cross linked) - Prim 75-80%

Pigments - Primer Compon 15-20%

Additives - Primer Compor 5-6%

Basecoat (Example)

Binder - Basecoat Compor 80-90%

Pigments - Basecoat Comp 8.5-18.5%

Additive - Basecoat Comp 1-1.6%

Clearcoat (Example)

Binder - Clearcoat compor 90-94%

Additive - Clearcoat Comp 6-10%

Details

Type	Semicomponent (Modul
ID / Version	45838319 / 0.01
Article Name	Paint System (Example
Item-/Material-No.	Example
Development	

Alternatively you may describe the paint system as a material using the materials:
Primer, Basecoat, Clearcoat (see Mono Coat)

Substances of a multi layer paint system (enamel)