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21338-2001

**MATERIAL SAFETY DATA SHEET**

-2002  
 -2101  
 -2201  
 -2301

No.: 3189-H5

Date: 20.08.1985

**Section I**

Manufacturer's Name: Staedtler Mars GmbH & Co. KG		Emergency Telephone No.: 0911 / 394 319	
Address: Kirchenweg 10, D-8500 Nürnberg 90		Telex: 0623115 mars d	
Trade Name and Synonyms: Lumocolor Permanent F 318-Black <b>Permanent Ink</b>			
Principal use: For Overhead Projection		Ink-Contents: 1,3 g	

**Section II - Hazardous Ingredients**

Basic Blue 7	LD <sub>50</sub> -unit: 100 mg/kg	5
Basic Orange 1	LD <sub>50</sub> -unit: 1.000 mg/kg	5
Basic Red 1	LD <sub>50</sub> -unit: 400 mg/kg	2
n-Butanol	TWA-unit: 100 ppm	16
Hazardous Mixtures of other Liquids, Solids, or Gases		
None		

**Section III - Physical Data of ink**

Boiling Point (°C):	Melting Point (°C):	Specific Gravity (H <sub>2</sub> O=1): 0,91	pH:
	Evaporation Rate: <u>1</u>	(%) Volatile by Volume:	Solubility in Water (By Wt.): <b>partially miscible</b>
Appearance and Odor fibre tip pen, containing solvent ink, alcoholic odor		Pressurized <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If Yes: _____ mmHg

**Section IV - Fire and Explosion Hazards of ink**

Flash Point (°C): 18,5	(%) Lower Explosion Limit:	(%) Upper Explosion Limit:	Autoignition Temp. (°C):
Test Method <input type="checkbox"/> Open Cup <input checked="" type="checkbox"/> Closed Cup <input type="checkbox"/> Cleveland Closed Cup <input type="checkbox"/> Other:			
Extinguishing Media <input checked="" type="checkbox"/> Water <input type="checkbox"/> Dry Chemical <input type="checkbox"/> Carbon Dioxide <input type="checkbox"/> Foam <input type="checkbox"/> Other:			
Special Fire Fighting Procedures <input checked="" type="checkbox"/> None <input type="checkbox"/> Other:			

Item Numbers: 21338-2001, 21338-2002, 21338-2101, 21338-2201, 21338-2301

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Section VIII - Special Protection Information			
<b>Mechanical Ventilation</b>			
<input type="checkbox"/> None	<input type="checkbox"/> Comments:		
<input type="checkbox"/> Increased Room	N / A		
<input type="checkbox"/> Local Exhaust			
<b>Approved Respiratory Protection, if required:</b>			
<input checked="" type="checkbox"/> None	<input type="checkbox"/> Organic Vapor	<input type="checkbox"/> Mist Cartridge	
<input type="checkbox"/> Self Contained	<input type="checkbox"/> Acid Gas	<input type="checkbox"/> High Efficiency Dust	
<input type="checkbox"/> Full Face	<input type="checkbox"/> Alkaline Gas	<input type="checkbox"/> Cartridge Number	
<input type="checkbox"/> Other	<input type="checkbox"/> Dust Cartridge	<input type="checkbox"/> Comment	
<b>Routine Personal Protection</b>			
<b>Protective Gloves</b>			
<input checked="" type="checkbox"/> None	<input type="checkbox"/> Cotton	<input type="checkbox"/> Acrylonitrile	<input type="checkbox"/> One-time use only
<input type="checkbox"/> Polyethylene	<input type="checkbox"/> PVC	<input type="checkbox"/> Natural Rubber	<input type="checkbox"/> Other
<input type="checkbox"/> Latex/Neoprene	<input type="checkbox"/> Buna-N	<input type="checkbox"/> Latex	<input type="checkbox"/> Comments
<input type="checkbox"/> Viton	<input type="checkbox"/> Vinyl	<input type="checkbox"/> PVA	
<b>Eye/Face Protection</b>			
<input type="checkbox"/> Safety Glasses	<input type="checkbox"/> Goggles	<input type="checkbox"/> Other:	
<input type="checkbox"/> Safety Glasses with Side Shields	<input type="checkbox"/> Face Shield	<input type="checkbox"/> Comments None	
<b>Protective Clothing</b>			
<input checked="" type="checkbox"/> None	<input type="checkbox"/> Coverall	<input type="checkbox"/> Comments	
<input type="checkbox"/> Apron	<input type="checkbox"/> Disposable Clothing		
Section IX - Special Precautions			
<b>Precautions to be taken in Handling and Storing:</b>			
Keep closed when not in use.			
<b>Other Precautions:</b>			

The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties. These products should be stored, handled and used in conformity with the application they are intended. The information provided above is for general guidance only without responsibility on our part and is subject to change without notice.

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Section V - Health Hazard Data		
Threshold Limit Value: see Section II		
Effects of Overexposure: N / A		
Emergency and First Aid Procedures:		
Section VI - Reactivity Data		
Stability		
<input type="checkbox"/> Stable	<input type="checkbox"/> Conditions to Avoid	
<input type="checkbox"/> Unstable	N / A	
Incompatibility (Materials to Avoid - Reactions and/or Toxic Products)		
<input type="checkbox"/> Strong Acids	<input type="checkbox"/> Oxidizers	<input type="checkbox"/> Other
<input type="checkbox"/> Strong Bases	<input type="checkbox"/> Reducing Agents	N / A
Hazardous Decomposition Products	N / A	Decomposition Temp. (°C):
Hazardous Polymerization		
<input type="checkbox"/> May Occur	Conditions to Avoid	
<input type="checkbox"/> Will Not Occur	N / A	
Section VII - Spill Procedures and Waste Disposal/Treatment Methods		
Steps to be taken in case Material is released or spilled:		
<input type="checkbox"/> Contain for treatment/disposal	<input type="checkbox"/> Ventilate Area	<input type="checkbox"/> Other (Specify):
<input type="checkbox"/> Cover with absorbent material and collect	<input type="checkbox"/> Neutralize (Specify):	N / A
In case of Excessive Exposure		
<input type="checkbox"/> Self contained breathing apparatus		
<input type="checkbox"/> Other (Specify):	N / A	
Hazardous Waste		
<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Waste ID Number
Waste Disposal Method		
<input type="checkbox"/> None	<input type="checkbox"/> Secured Chemical Landfill	<input checked="" type="checkbox"/> Incineration
<input type="checkbox"/> Sanitary Landfill	<input type="checkbox"/> Sanitary Sewer	<input type="checkbox"/> Alternate Method (Specify):
<input type="checkbox"/> Solidification/Chemical fixation	<input type="checkbox"/> Regulatory Requirements (Specify):	
Waste Treatment Method		
<input type="checkbox"/> None	<input type="checkbox"/> Neutralization	<input type="checkbox"/> Alternate Method (Specify):
<input type="checkbox"/> Recycling/Reuse	<input type="checkbox"/> Bio Treatment	
<input type="checkbox"/> Detoxification	<input checked="" type="checkbox"/> Incineration (°C):	