

SAFETY DATA SHEET

Issuing Date: 08-Feb-2018

Version 5

PD-1104 Catalyst

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name PD-1104 Catalyst

Product code K45500

Product Use Catalyst.

Manufactured by

FUJIFILM Manufacturing U.S.A., Inc.
20 West 14th Avenue
North Kansas City, MO. 64116 USA
Phone#: (913) 342-4060

Distributed in Canada by

FUJIFILM Canada, Inc.
600 Suffolk Ct.
Mississauga, Ontario L5R 4G4

SDSs are available at the following website(s): <http://www.fujifilmusa.com/msds>

Company Phone Number U.S.A: 800-473-3854 Canada: 800-263-5018

Emergency Telephone Transport-CHEMTREC Inside NA: 800-424-9300
Transport CHEMTREC Outside NA: 703-527-3887
Transport-CANUTEC Inside Canada: 613-996-6666
Medical Emergency (24 hour): 877-935-7387

E-mail EHS@fujifilm.com

2. HAZARDS IDENTIFICATION

Classification

Acute toxicity - Dermal	Category 4
Acute toxicity - Inhalation (Dusts/Mists)	Category 2
Skin corrosion/irritation	Category 2
Serious eye damage/eye irritation	Category 2
Respiratory sensitization	Category 1
Skin sensitization	Category 1A
Carcinogenicity	Category 2
Specific target organ toxicity (repeated exposure)	Category 1

Flammable liquids

Category 3

GHS Label elements, including precautionary statements

Danger

Hazard Statements

Harmful in contact with skin

Fatal if inhaled

Causes skin irritation

Causes serious eye irritation

May cause allergy or asthma symptoms or breathing difficulties if inhaled

May cause an allergic skin reaction

Suspected of causing cancer

Causes damage to organs through prolonged or repeated exposure

Flammable liquid and vapor

**Precautionary Statements****Prevention**

Obtain special instructions before use

Do not handle until all safety precautions have been read and understood

Wear protective gloves/protective clothing/eye protection/face protection

Do not breathe dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Wear respiratory protection

Wash face, hands and any exposed skin thoroughly after handling

Contaminated work clothing must not be allowed out of the workplace

Do not eat, drink or smoke when using this product

Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Keep container tightly closed

Ground/Bond container and receiving equipment

Use only non-sparking tools

Take precautionary measures against static discharge

Use explosion-proof electrical (ventilation and lighting) equipment

Keep cool

Response

If exposed or concerned: Get medical advice/attention

Specific treatment (see .? on this label)

Specific treatment is urgent (see .? on this label)

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

If eye irritation persists: Get medical advice/attention

Call a POISON CENTER or doctor if you feel unwell

If skin irritation or rash occurs: Get medical advice/attention

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower

Wash contaminated clothing before reuse

IF INHALED: Remove person to fresh air and keep comfortable for breathing

Immediately call a POISON CENTER or doctor

In case of fire: Use CO₂, dry chemical, or foam to extinguish**Storage**

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

Not classified

Other hazards

Toxic to aquatic life with long lasting effects

Unknown Acute Toxicity

66.2% of the mixture consists of ingredient(s) of unknown toxicity

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS No	Weight-%
Ethylbenzene	100-41-4	1-5%
2-methyl-m-phenylene diisocyanate	91-08-7	0.1-1%

4. FIRST AID MEASURES

First aid measures for different exposure routes

General advice	Do not get in eyes, on skin, or on clothing. Do not breathe dust/fume/gas/mist/vapors/spray. If symptoms persist, call a physician.
Eye contact	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Skin contact	IF ON SKIN: Wash with plenty of soap and water. If skin irritation or rash occurs: Get medical advice/attention.
Inhalation	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
Ingestion	Do NOT induce vomiting. Rinse mouth. Drink plenty of water. If symptoms persist, call a physician.
Protection of First-aiders	Use personal protective equipment.

Most important symptoms/effects, acute and delayed

May cause redness, itching, and pain. May cause allergic skin reaction.

Indication of immediate medical attention and special treatment needed, if necessary

May cause sensitization of susceptible persons.

5. FIRE-FIGHTING MEASURES

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO2). Dry chemical. Alcohol resistant foam.

Unsuitable Extinguishing Media

None known.

Specific hazards arising from the chemical

Flammable. Will be easily ignited by heat, sparks or flames. May cause sensitization by skin contact.

Hazardous Combustion Products

Carbon oxides. Nitrogen oxides (NOx). Hydrogen cyanide.

Explosion Data

Sensitivity to Mechanical Impact none

Sensitivity to Static Discharge Yes

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. ACCIDENTAL RELEASE MEASURES**Personal precautions, protective equipment and emergency procedures**

Avoid contact with skin, eyes or clothing. Use personal protective equipment. Remove all sources of ignition. Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.

Environmental precautions

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system.

Methods and materials for containment and cleaning up

Methods for Containment A vapor suppressing foam may be used to reduce vapors. Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal.

Methods for cleaning up Cover liquid spill with sand, earth or other noncombustible absorbent material. Pick up and transfer to properly labeled containers. Use personal protective equipment. Take precautionary measures against static discharges. Pay attention to flashback. Use only non-sparking tools. Clean contaminated surface thoroughly. After cleaning, flush away traces with water.

Other information Water spray may reduce vapor; but may not prevent ignition in closed spaces.

7. HANDLING AND STORAGE**Precautions for safe handling**

Avoid contact with skin, eyes or clothing. Wear personal protective equipment. Avoid breathing vapors or mists. Keep away from open flames, hot surfaces and sources of ignition. Take precautionary measures against static discharges. Ensure adequate ventilation.

Conditions for safe storage, including any incompatibilities

Keep away from heat and sources of ignition. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep in properly labeled containers.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters****Exposure Guidelines**

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH	AIHA - Workplace Environmental Exposure Levels (WEELs) - TWAs
Ethylbenzene	TWA: 20 ppm	TWA: 100 ppm TWA: 435 mg/m ³ (vacated) TWA: 100 ppm (vacated) TWA: 435 mg/m ³ (vacated) STEL: 125 ppm (vacated) STEL: 545 mg/m ³	IDLH: 800 ppm TWA: 100 ppm TWA: 435 mg/m ³ STEL: 125 ppm STEL: 545 mg/m ³	
2-methyl-m-phenylene diisocyanate	STEL: 0.005 ppm inhalable fraction and vapor TWA: 0.001 ppm inhalable fraction and vapor S*			

Exposure controls

Engineering Measures Ventilation systems

Individual protection measures, such as personal protective equipment

Eye/Face Protection Tightly fitting safety goggles.

Skin and body protection Wear protective gloves/clothing.

Respiratory protection If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

General Hygiene Considerations When using do not eat, drink or smoke. Take off contaminated clothing and wash before reuse. Regular cleaning of equipment, work area and clothing is recommended.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	clear	Odor	Aromatic
Odor Threshold	Not available	Physical State @20°C	Liquid
pH	Not available	Molecular Weight	Not available
Specific Gravity	1.15	Autoignition temperature	Not available
Flash point	115 °F / 46 °C	Boiling point / boiling range	280 °F / 138 °C
Decomposition temperature	Not available	Freezing Point	Not available
Melting point / melting range	Not available		
Flammability Limit in Air			
upper 10.8			
Lower 1.5			
Oxidizing Properties	Not available	Explosive Properties	Not available
Solubility	Practically insoluble	Partition coefficient	Not available
Evaporation rate	Not available	Vapor Pressure	8.25 mmHg @ 20 °C
Vapor density	Not available	Density	Not available
Weight per Gallon (lbs)	9.57	Actual VOC (lb/gal)	3.825
VOC (lb/gal)	Not available	VOC (g/l)	Not available
Dynamic viscosity	Not available		
VOC Content California			
VOC Content of Material		459 grams per liter	
VOC Content of Coating less Water and Exempt Solvents		459 grams per liter	

10. STABILITY AND REACTIVITY

Reactivity

Stable under recommended storage conditions.

Chemical stability

Stable under recommended storage conditions.

Possibility of hazardous reactions

None under normal processing.

Conditions to Avoid

Heat (temperatures above flash point), sparks, ignition points, flames, static electricity. Heat, flames and sparks.

Incompatible Materials

Alcohol. Amines. Strong oxidizing agents.

Hazardous Decomposition Products

None known.

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Product Information

Acute toxicity

Inhalation

Toxic by inhalation. May cause allergic respiratory reaction.

Eyes

Irritating to eyes.

Skin

May be harmful in contact with skin. Repeated or prolonged skin contact may cause allergic reactions with susceptible persons. Irritating to skin.

Ingestion

May be harmful if swallowed. May cause additional affects as listed under "Inhalation".

Component Information

Chemical Name	Oral LD50	Dermal LD50	LC50 (lethal concentration)
Ethylbenzene	= 3500 mg/kg (Rat)	= 15400 mg/kg (Rabbit)	= 17.4 mg/L (Rat) 4 h

Information on toxicological effects

No information available.

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Irritation

Irritating to eyes and skin.

Corrosivity

No information available.

Sensitization

May cause sensitization by inhalation. May cause sensitization by skin contact.

Mutagenic Effects

No information available.

Reproductive Toxicity

No information available.

Carcinogenicity

The table below indicates whether each agency has listed any ingredient as a carcinogen. Contains a known or suspected carcinogen.

Chemical Name	ACGIH	IARC	NTP	OSHA
---------------	-------	------	-----	------

Ethylbenzene	A3	Group 2B	X
2-methyl-m-phenylene diisocyanate	A3	Group 2B	X

ACGIH: (American Conference of Governmental Industrial Hygienists)

A1 - Known Human Carcinogen
 A2 - Suspected Human Carcinogen
 A3 - Animal Carcinogen
 A4 - Not Classifiable as a Human Carcinogen

NTP: (National Toxicity Program)

Known - Known Carcinogen
 Reasonably Anticipated - Reasonably Anticipated to be a Human Carcinogen

IARC: (International Agency for Research on Cancer)

Group 1: Carcinogenic to humans
 Group 2A: Probably carcinogenic to humans
 Group 2B: Possibly carcinogenic to humans
 Group 3: Not classifiable as to its carcinogenicity to humans

OSHA: (Occupational Safety & Health Administration)

X - Present

STOT - single exposure	No information available.
STOT - repeated exposure	No information available.
Chronic toxicity	Repeated contact may cause allergic reactions in very susceptible persons. Avoid repeated exposure.
Target Organ Effects	Central nervous system (CNS), Eyes, Respiratory system, Skin, Blood.
Aspiration hazard	No information available.

Numerical measures of toxicity - Product Information

The following values are calculated based on chapter 3.1 of the GHS document

ATEmix (oral)	5461 mg/kg
ATEmix (dermal)	1703 mg/kg
ATEmix (inhalation-gas)	750 mg/l
ATEmix (inhalation-dust/mist)	0.4 mg/l
ATEmix (inhalation-vapor)	3.4 mg/l

ATE: Acute toxicity estimate

12. ECOLOGICAL INFORMATION

Ecotoxicity

Chemical Name	Algae toxicity	Toxicity to fish	Toxicity to microorganisms	Toxicity to daphnia and other aquatic invertebrates
Ethylbenzene		Pimephales promelas: 7.55 - 11 mg/L at 96 h Pimephales promelas: 9.1 - 15.6 mg/L at 96 h		

Persistence and degradability

No information available.

Bioaccumulation

Chemical Name	Octanol Water Partition Coefficient (log pow)
Ethylbenzene	3.2

Mobility

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS**Waste Disposal Methods**

This material, as supplied, is a hazardous waste according to federal regulations (40 CFR 261). Dispose of in accordance with all applicable national environmental laws and regulations. Dispose of in accordance with federal, state, and local regulations.

Contaminated packaging

Do not re-use empty containers.

US EPA Waste Number

D001

14. TRANSPORT INFORMATION

DOT

Proper Shipping Name	Printing ink related material
UN/ID No	UN1210
Hazard Class	3
Packing Group	III
Reportable Quantity (RQ)	Ethyl benzene: RQ kg= 13757.58, Xylenes isomers and mixture: RQ kg= 302.67, Benzene, 2,4-diisocyanato-1-methyl-: RQ kg= 11350.00
Description	UN1210, Printing ink related material, 3, PGIII
Emergency Response Guide Number	129
Packaging Exceptions	150
Non-bulk Packaging	173
Bulk Packaging	242

TDG

Proper Shipping Name	Printing ink related material
UN/ID No	UN1210
Hazard Class	3
Packing Group	III
Description	UN1210, Printing ink related material, 3, PGIII

MEX

Proper Shipping Name	Printing ink related material
UN/ID No	UN1210
Hazard Class	3
Packing Group	III
Description	UN1210, Printing ink related material, 3, III

ICAO

Proper Shipping Name	Printing ink related material
UN/ID No	UN1210
Hazard Class	3
Packing Group	III
Description	UN1210, Printing ink related material, 3, PGIII

IATA

Proper Shipping Name	Printing ink related material
UN/ID No	UN1210
Hazard Class	3
Packing Group	III
Description	UN1210, Printing ink related material, 3, PGIII

IMDG

Proper Shipping Name	Printing ink related material
UN/ID No	UN1210
Hazard Class	3
Packing Group	III
EmS-No	F-E, S-D
Description	UN1210, Printing ink related material, 3, PGIII

ADR/RID

Proper Shipping Name	Printing ink related material
UN/ID No	UN1210
Hazard Class	3

Packing Group	III
Classification Code	F1
Description	UN1210, Printing ink related material, 3, PGIII
ADR/RID-Labels	3

ADN

Proper Shipping Name	Printing ink related material
UN/ID No	UN1210
Hazard Class	3
Packing Group	III
Classification Code	F1
Description	UN1210, Printing ink related material, 3, PGIII
Limited quantity	LQ7
Ventilation	VE01

15. REGULATORY INFORMATION

International Inventories

TSCA	Yes
DSL/NDSL	Yes
PICCS	Yes
EINECS/ELINCS	Yes
ENCS	Yes
IECSC	Yes
KECL	Yes
AICS	Yes

*Yes - All component(s) of this product are included or are exempt from listing on the inventory.

*No - Indicates the component(s) of this product are either not listed or have not been determined to be listed on the inventory.

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances

ENCS - Japan Existing and New Chemical Substances

IECSC - China Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

AICS - Australian Inventory of Chemical Substances

U.S. Federal Regulations**TSCA Sections 4, 5 and 12(b)**

Chemical Name	TSCA - Section 4	TSCA - Section 5	TSCA 12(b)
4-methyl-m-phenylene diisocyanate		X	Section 5
2-methyl-m-phenylene diisocyanate		X	Section 5

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

Chemical Name	CAS No	SARA 313 - Threshold Values %	Weight-%
Xylene	1330-20-7	1.0	10-20%
Ethylbenzene	100-41-4	0.1	1-5%
4-methyl-m-phenylene diisocyanate	584-84-9	0.1 1.0	0.1-1%
2-methyl-m-phenylene diisocyanate	91-08-7	0.1 1.0	0.1-1%

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	no
Reactive Hazard	no

Clean Water Act

This product contains the following substances which are regulated pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42):.

Chemical Name	CWA - Reportable Quantities	CWA - Toxic Pollutants	CWA - Priority Pollutants	CWA - Hazardous Substances
Ethylbenzene	1000 lb	X	X	X

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302):.

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs	RQ
Ethylbenzene	1000		RQ 1000 lb final RQ RQ 454 kg final RQ
2-methyl-m-phenylene diisocyanate	100	100 lb	RQ 100 lb final RQ RQ 45.4 kg final RQ

U.S. State Regulations**California Proposition 65**

This product contains the following Proposition 65 chemicals:

Chemical Name	California Prop. 65
Ethylbenzene	Carcinogen

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Ethylbenzene	X	X	X	X	X
2-methyl-m-phenylene diisocyanate	X	X	X	X	

International Regulations**Canada - NDSL**

This product does not contain any NDSL chemicals.

Mexico - Grade

Moderate risk, Grade 2

Mexico - Carcinogen Status and Exposure Limits

Chemical Name	Carcinogen Status	Exposure Limits
Ethylbenzene		Mexico: TWA 100 ppm Mexico: TWA 435 mg/m ³ Mexico: STEL 125 ppm Mexico: STEL 545 mg/m ³

Other Regulations

No information available

CPSIA
CONEG
ASTM F-963

Formulated to comply
Formulated to comply
Formulated to comply

CHPA	Formulated to comply
RoHS	Formulated to comply
REACH/SVHC	Formulated to comply
EN-71	Formulated to comply

16. OTHER INFORMATION

NFPA	Health Hazard 2	Flammability 2	Instability 0	Physical and chemical hazards -
HMIS	Health Hazard 2*	Flammability 2	Physical Hazard 0	Personal protection B

**Indicates a chronic health hazard.*

Prepared By FUJIFILM Environment, Health and Safety, phone: 800-473-3854

Revision Date 08-Feb-2018

Revision Note No information available

Disclaimer The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

end