



**DURAL 452 LV 2:1**

Version 3.1  
REVISION DATE: 06/03/2014

Print Date 06/04/2014

This is a kit that contains the following components:

DURAL 452 LV 2:1 PART A  
DURAL 452 LV 2:1 PART B





**DURAL 452 LV 2:1 PART A**

Version 3.1  
REVISION DATE: 06/03/2014

Print Date 06/04/2014

**SECTION 1 - PRODUCT IDENTIFICATION**

Trade name : DURAL 452 LV 2:1 PART A  
 Product code : 002DL 03

COMPANY : Euclid Chemical Company  
 19218 Redwood Road  
 Cleveland, OH 44110

Telephone : 1-800-321-7628  
 Emergency Phone : U.S. only: 1-800-424-9300  
 International Users Call Collect: 1-703-527-3887

**SECTION 2 - HAZARDS IDENTIFICATION**

**Emergency Overview**

Clear. Liquid. May cause slight irritation to the respiratory system. Leave area to breathe fresh air. Avoid further overexposure. If symptoms persist, get medical attention.

**Acute Potential Health Effects/ Routes of Entry**

Inhalation : May cause slight irritation to the respiratory system.  
 Eyes : Slightly irritating.  
 Ingestion : May cause gastrointestinal irritation, nausea, and vomiting.  
 Skin : May cause sensitization.

**Aggravated Medical Conditions**

Pre-existing eye, skin and respiratory disorders may be aggravated by exposure.

**Chronic Health Effects**

May cause sensitization by contact. Prolonged or repeated exposure to epoxy resin can cause irritation to skin, eyes, skin sensitization, temporary eye injury. Certain epoxy resins are reported to be mutagenic in some laboratory tests. Fillers are encapsulated and not expected to be released from product under normal conditions of use.

**Target Organs:** Skin, Eye, Ingestion

**SECTION 3 - PRODUCT COMPOSITION**

Chemical Name	CAS-No.	Weight %
Bisphenol A Polyglycidyl Ether Resin	25068-38-6	> 60.0
o-Cresyl glycidyl ether	2210-79-9	15.0 - 40.0

**SECTION 4 - FIRST AID MEASURES**

Get immediate medical attention for any significant overexposure.



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- Inhalation : Leave area to breathe fresh air. Avoid further overexposure. If symptoms persist, get medical attention.
- Eye contact : Flush with water for 15 minutes. If irritation persists, get medical attention.
- Skin contact : Wash with water. If irritation, rash or other disorders develop, get medical attention immediately.
- Ingestion : Do not induce vomiting unless advised by a physician. Call nearest Poison Control Center or Physician immediately.

**SECTION 5 - FIRE FIGHTING MEASURES**

- Flash point : > 200 °F, > 93 °C
- Method : Setaflash Closed Cup
- Lower explosion limit : Not available.
- Upper explosion limit : Not available.
- Autoignition temperature : Not available.
- Extinguishing media : This product is not expected to burn under normal conditions of use.
- Hazardous combustion products : Smoke, fumes.
- Protective equipment for firefighters : Use accepted fire fighting techniques. Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA).
- Fire and explosion conditions : This product not expected to ignite under normal conditions of use.

**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

Stop flow. Contain spill. Keep out of water courses. Absorb spill in sand, earth or other suitable material. Transfer to appropriate container for disposal.

**SECTION 7 - HANDLING AND STORAGE**

Prevent inhalation of vapor, ingestion, and contact with skin eyes and clothing. Keep container closed when not in use. Precautions also apply to emptied containers. Store in sealed containers in a dry, ventilated warehouse location above freezing.

**SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

- Personal protection equipment**
- Respiratory protection : Not required under normal conditions of use.
  - Hand protection : Use suitable impervious rubber or vinyl gloves and protective apparel to reduce exposure.
  - Eye protection : Wear appropriate eye protection.
  - Skin and body protection : Not required.
  - Protective measures : Use professional judgment in the selection, care, and use. Other equipment

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Engineering measures : not normally required.  
: General ventilation is sufficient.

**Exposure Limits**

No known components with exposure limits.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

Form : Liquid  
Color : Clear  
Odor : Epoxy  
pH : Not available.  
Vapour pressure : Not available.  
Vapor density : Heavier than air  
Melting point/range : Not available.  
Freezing point : Not available.  
Boiling point/range : Not available.  
Water solubility : Miscible  
Specific Gravity : 1.14  
% Volatile Weight : 0.0 %

**SECTION 10 - REACTIVITY / STABILITY**

Substances to avoid : Acids and bases.Amines.Epoxy curing agents.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

No Data Available

**SECTION 12 - ECOLOGICAL INFORMATION**

No Data Available

**SECTION 13 - DISPOSAL CONSIDERATIONS**Disposal Method : Not regulated under RCRA. Dispose of in compliance with state and local regulations.  
Do not incinerate.

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**SECTION 14 - TRANSPORTATION / SHIPPING DATA****CFR / DOT:**

Not Regulated

**TDG:**

Not Regulated

**IMDG:**

Not Regulated

**SECTION 15 - REGULATORY INFORMATION****North American Inventories:**

All components are listed or exempt from the TSCA inventory.

This product or its components are listed on, or exempt from the Canadian Domestic Substances List.

**U.S. Federal Regulations:**

SARA 313 Components : None present or none present in regulated quantities.

SARA 311/312 Hazards : Acute Health Hazard

OSHA Hazardous Components :

OSHA Status: Considered : Irritant  
 hazardous based on the  
 following criteria:

OSHA Flammability : Not Regulated

When appropriately mixed with the other part, product has a VOC less water and exempt solvent of:  
 45 g/l**U.S. State Regulations:**Penn RTK Components : Bisphenol A Polyglycidyl Ether Resin 25068-38-6  
 o-Cresyl glycidyl ether 2210-79-9NJ RTK Components : Bisphenol A Polyglycidyl Ether Resin 25068-38-6  
 o-Cresyl glycidyl ether 2210-79-9



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WARNING! Contains chemicals known to the State of California to cause cancer, birth defects and/or other reproductive harm:  
 67-56-1 Methanol

**SECTION 16 - OTHER INFORMATION**

**HMIS Rating :**

Health	1
Flammability	1
Reactivity	0
PPE	

0 = Minimum  
 1 = Slight  
 2 = Moderate  
 3 = Serious  
 4 = Severe

**Further information:**

For Industrial Use Only. Keep out of Reach of Children. The hazard information herein is offered solely for the consideration of the user, subject to their own investigation of compliance with applicable regulations, including the safe use of the product under every foreseeable condition.

**Prepared by: Rich Mikol**

**Legend**

ACGIH - American Conference of Governmental Hygienists  
 CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act  
 DOT - Department of Transportation  
 DSL - Domestic Substance List  
 EPA - Environmental Protection Agency  
 HMIS - Hazardous Materials Information System  
 IARC - International Agency for Research on Cancer  
 MSHA - Mine Safety Health Administration  
 NDSL - Non-Domestic Substance List  
 NIOSH - National Institute for Occupational Safety and Health  
 NTP - National Toxicology Program  
 OSHA - Occupational Safety and Health Administration

PEL - Permissible Exposure Limit  
 RCRA - Resource Conservation and Recovery Act  
 RTK - Right To Know  
 SARA - Superfund Amendments and Reauthorization Act  
 STEL - Short Term Exposure Limit  
 TLV - Threshold Limit Value  
 TSCA - Toxic Substances Control Act  
 TWA - Time Weighted Average  
 V - Volume  
 VOC - Volatile Organic Compound  
 WHMIS - Workplace Hazardous Materials Information System







**DURAL 452 LV 2:1 PART B**

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**SECTION 1 - PRODUCT IDENTIFICATION**

Trade name : DURAL 452 LV 2:1 PART B  
 Product code : 002DL 03

COMPANY : Euclid Chemical Company  
 19218 Redwood Road  
 Cleveland, OH 44110

Telephone : 1-800-321-7628  
 Emergency Phone : U.S. only: 1-800-424-9300  
 International Users Call Collect: 1-703-527-3887

Product use : Curative

**SECTION 2 - HAZARDS IDENTIFICATION**

**Emergency Overview**

Clear to Amber. Liquid. May cause slight irritation to the respiratory system. Move to fresh air. If required, artificial respiration or administration of oxygen can be performed by trained personnel.

**Acute Potential Health Effects/ Routes of Entry**

Inhalation : May cause slight irritation to the respiratory system.  
 Eyes : Vapors or liquid may cause tearing, blurred vision, severe irritation, and possible chemical burns.  
 Ingestion : May cause gastrointestinal irritation, nausea, and vomiting. May cause chemical burns to stomach, mouth, nose, and throat.  
 Skin : May cause itching, reddening, inflammation. May cause severe burns, blistering and skin damage. May cause sensitization resulting in irritation, itching and redness. May cause a rash.

**Aggravated Medical Conditions**

Pre-existing eye, skin and respiratory disorders may be aggravated by exposure.

**Chronic Health Effects**

May cause sensitization by contact. Prolonged skin contact may cause irritation, burns or dermatitis. Repeated overexposure to vapors and/or material may injure the liver, kidneys and respiratory system unless suitable engineering controls and/or personal protective equipment are used. May aggravate persons sensitized to amines. Repeated inhalation of nonyl phenol may cause lung damage. Repeated skin contact with nonyl phenol may cause skin irritation and dermatitis. Fillers are encapsulated and not expected to be released from product under normal conditions of use.

**SECTION 3 - PRODUCT COMPOSITION**

Chemical Name	CAS-No.	Weight %
Modified Amine	NJ TSRN# 51721300-5867P	15.0 - 40.0

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4-Nonylphenol	84852-15-3	15.0 - 40.0
Poly(oxypropylene) diamine	9046-10-0	10.0 - 30.0
Benzyl alcohol	100-51-6	10.0 - 30.0
1,2-Cyclohexanediamine	694-83-7	10.0 - 30.0
1,3-Cyclohexanedimethanamine	2579-20-6	10.0 - 30.0
N Amino ethyl piperazine	140-31-8	5.0 - 10.0

**SECTION 4 - FIRST AID MEASURES**

Get immediate medical attention for any significant overexposure.

Inhalation	:	Move to fresh air. If required, artificial respiration or administration of oxygen can be performed by trained personnel.
Eye contact	:	Flush with water for at least 15 minutes while holding eye lids apart. Get medical attention immediately.
Skin contact	:	Clean area of contact thoroughly using soap and water. If irritation, rash or other disorders develop, get medical attention immediately.
Ingestion	:	Do not induce vomiting unless advised by a physician. Call nearest Poison Control Center or Physician immediately.

**SECTION 5 - FIRE FIGHTING MEASURES**

Flash point	:	> 200 °F, > 93 °C
Method	:	Setaflash Closed Cup
Lower explosion limit	:	Not available.
Upper explosion limit	:	Not available.
Autoignition temperature	:	Not available.
Extinguishing media	:	If water fog is ineffective, use carbon dioxide, dry chemical or foam.
Hazardous combustion products	:	Carbon monoxide and carbon dioxide can form. Smoke, fumes. Nitrogen oxides can form.
Protective equipment for firefighters	:	Use accepted fire fighting techniques. Wear full firefighting protective clothing, including self-contained breathing apparatus (SCBA).
Fire and explosion conditions	:	Product may ignite if heated in excess of its flash point. Vapors may travel to sources of ignition and flashback. Vapor concentrations in enclosed areas may ignite explosively. Empty containers may contain ignitable vapors.

**SECTION 6 - ACCIDENTAL RELEASE MEASURES**

Use appropriate protective equipment. Avoid contact with material. Remove sources of ignition immediately. Stop flow of material if safe to do so. Contain spill and keep out of water courses. Ventilate area.



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**SECTION 7 - HANDLING AND STORAGE**

Prevent inhalation of vapor, ingestion, and contact with skin eyes and clothing. Keep container closed when not in use. Precautions also apply to emptied containers. Do not smoke, weld, generate sparks, or use flame near container. Do not use in confined or poorly ventilated areas. Personal protective equipment must be worn during maintenance or repair of contaminated mixer, reactor, or other equipment. Store under dry warehouse conditions away from heat and all ignition sources.

**SECTION 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Personal protection equipment**

- Respiratory protection : Wear NIOSH/MSHA approved vapor respirator with appropriate cartridge when the vapor concentration is expected to exceed exposure limits indicated on the MSDS. Follow manufacturer's directions for respirator use.
- Hand protection : Use suitable impervious nitrile or neoprene gloves and protective apparel to reduce exposure.
- Eye protection : Wear chemical safety goggles and/or face shield to prevent eye contact. Do not wear contact lenses. Do not touch eyes with contaminated body parts or materials. Have eye washing facilities readily available.
- Skin and body protection : Prevent contact with shoes and clothing. Use rubber apron and overshoes.
- Protective measures : Inspect and replace equipment at regular intervals. Use professional judgment in the selection, care, and use.
- Engineering measures : Use only in well ventilated areas. Provide maximum ventilation in enclosed areas. Use local exhaust when the general ventilation is inadequate.

**Exposure Limits**

No known components with exposure limits.

**SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES**

- Form : Liquid
- Color : Clear to Amber
- Odor : Amine
- pH : Not available.
- Vapour pressure : Not available.
- Vapor density : Heavier than air
- Melting point/range : Not available.
- Freezing point : Not available.
- Boiling point/range : Not available.
- Water solubility : Negligible
- Specific Gravity : 1.02

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% Volatile Weight : 34.8 %

**SECTION 10 - REACTIVITY / STABILITY**

Substances to avoid : Oxidizing agents.Epoxies.Isocyanates.Acids.  
Stability : Material is stable under normal storage, handling, and use.  
Hazardous polymerization : Will not occur under normal conditions.

**SECTION 11 - TOXICOLOGICAL INFORMATION**

Benzyl alcohol, CAS-No.: 100-51-6  
Acute oral toxicity (LD-50 oral) 1,580 mg/kg ( Mouse ) 1,940 mg/kg ( Rabbit ) 3,100 mg/kg ( Rat )  
Acute inhalation toxicity (LC-50) 200 - 300 mg/l for 8 h ( Rat ) 1,000 mg/l for 8 h ( Rat )

**SECTION 12 - ECOLOGICAL INFORMATION**

No Data Available

**SECTION 13 - DISPOSAL CONSIDERATIONS**

Disposal Method : Subject to hazardous waste treatment, storage, and disposal requirements under RCRA. Recycle or incinerate waste at EPA approved facility or dispose of in compliance with federal, state and local regulations.

**SECTION 14 - TRANSPORTATION / SHIPPING DATA****CFR / DOT:**

UN1760, Corrosive liquids, n.o.s. (Alkaline Amine), 8, PG III

**TDG:**

UN1760, CORROSIVE LIQUID, N.O.S. (Alkaline Amine), 8, PG III

**IMDG:**

UN1760, CORROSIVE LIQUID, N.O.S. (Alkaline Amine, Nonylphenol), 8, PG III, MARINE POLLUTANT

**Further Information:**

The above shipping description may not be accurate for all container sizes and all modes of transportation.  
Please refer to Bill of Lading.



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**SECTION 15 - REGULATORY INFORMATION**

**North American Inventories:**

All components are listed or exempt from the TSCA inventory.  
 One or more components are listed on the NDSL.

**U.S. Federal Regulations:**

SARA 313 Components : None present or none present in regulated quantities.

SARA 311/312 Hazards : Acute Health Hazard

OSHA Hazardous Components :

OSHA Status: Considered : Irritant  
 hazardous based on the  
 following criteria:

OSHA Flammability : Not Regulated

When appropriately mixed with the other part, product has a VOC less water and exempt solvent of:  
 45 g/l

**U.S. State Regulations:**

MASS RTK Components : Benzyl alcohol 100-51-6  
 N Amino ethyl piperazine 140-31-8  
 Benzene 71-43-2  
 Epichlorohydrin 106-89-8

Penn RTK Components : Modified Amine NJ TSRN# 51721300-5867P  
 4-Nonylphenol 84852-15-3  
 Poly(oxypropylene) diamine 9046-10-0  
 Benzyl alcohol 100-51-6  
 1,2-Cyclohexanediamine 694-83-7  
 1,3-Cyclohexanedimethanamine 2579-20-6  
 N Amino ethyl piperazine 140-31-8

NJ RTK Components : Modified Amine NJ TSRN# 51721300-5867P  
 4-Nonylphenol 84852-15-3  
 Poly(oxypropylene) diamine 9046-10-0  
 Benzyl alcohol 100-51-6  
 1,2-Cyclohexanediamine 694-83-7  
 N Amino ethyl piperazine 140-31-8

WARNING! Contains chemicals known to the State of California to cause cancer, birth defects and/or other reproductive harm:

71-43-2 Benzene



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**SECTION 16 - OTHER INFORMATION**

**HMIS Rating :**

Health	3
Flammability	1
Reactivity	1
PPE	

0 = Minimum  
 1 = Slight  
 2 = Moderate  
 3 = Serious  
 4 = Severe

**Further information:**

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**Prepared by: Rich Mikol**

**Legend**

ACGIH - American Conference of Governmental Hygienists  
 CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act  
 DOT - Department of Transportation  
 DSL - Domestic Substance List  
 EPA - Environmental Protection Agency  
 HMIS - Hazardous Materials Information System  
 IARC - International Agency for Research on Cancer  
 MSHA - Mine Safety Health Administration  
 NDSL - Non-Domestic Substance List  
 NIOSH - National Institute for Occupational Safety and Health  
 NTP - National Toxicology Program  
 OSHA - Occupational Safety and Health Administration

PEL - Permissible Exposure Limit  
 RCRA - Resource Conservation and Recovery Act  
 RTK - Right To Know  
 SARA - Superfund Amendments and Reauthorization Act  
 STEL - Short Term Exposure Limit  
 TLV - Threshold Limit Value  
 TSCA - Toxic Substances Control Act  
 TWA - Time Weighted Average  
 V - Volume  
 VOC - Volatile Organic Compound  
 WHMIS - Workplace Hazardous Materials Information System