

SURFACE COATING OPERATIONS AIR GENERAL PERMIT EXAMPLE REGISTRATION WORKSHEET

Facility Identification Number (If known)

FLR000039503

0694865-001

Registration Type

Check one:

INITIAL REGISTRATION - Notification of intent to:

- Construct and operate a proposed new facility.
- Operate an existing permitted facility not currently using an air general permit (e.g., a facility proposing to go from an air operation permit to an air general permit). If the facility currently holds one or more air operation permits, such permit(s) must be surrendered by the owner or operator upon the effective date of this air general permit. (See "Surrender of Existing Air Operation Permit(s)" below.)
- Operates an existing facility not currently permitted or using an air general permit.

RE-REGISTRATION (for facilities currently using an air general permit) - Notification of intent to:

- Continue operating the facility after expiration of the current term of air general permit use.
- Continue operating the facility after a change of ownership.
- Make an equipment change requiring re-registration pursuant to Rule 62-210.310(2)(e), F.A.C., or any other change not considered an administrative correction under Rule 62-210.310(2)(d), F.A.C.

Surrender of Existing Air Operation Permit(s) - For Initial Registrations Only, if Applicable

All existing air operation permits for this facility are hereby surrendered upon the effective date of this air general permit; specifically permit number(s):

N/A

General Facility Information

Facility Owner/Company Name (Name of corporation, agency, or individual owner who or which owns, leases, operates, controls, or supervises the facility.)

Lake County Schools

Site Name (Name, if any, of the facility site; e.g., Plant A, Metropolis Plant, etc. If more than one facility is owned, a complete registration must be submitted for each.)

Lake County Schools, Main Transportation Facility

Facility Location (Physical location of the facility, not necessarily the mailing address.)

Street Address: 20265 U. S. HWY. 27N

City: Clermont

County: LAKE

Zip Code: 34711 - 8798

Facility Start-Up Date (Estimated start-up date of proposed new facility.)(N/A for existing facility.)

N/A

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 FACILITY REGISTRATION & ACCOUNTING

Facility Contact

Name and Position Title (Plant manager or person to be contacted regarding day-to-day operations at the facility.)

Print Name and Title: Mr. David Solomon, Supervisor of Transportation

Facility Contact Telephone Numbers

Telephone: 352.253.6740

Fax: 352.742.2173

Cell phone: 352.516.4732

E-mail: solomand@lake.k12.fl.us

Facility Contact Mailing Address

Organization/Firm: Lake County Schools

Street Address: 201 W. Burleigh Blvd.

City: Tavares

County: LAKE

Zip Code: 32778

Other Contact/Representative (to serve as additional Department contact)

Name and Position Title

Print Name and Title: Randy D. Wells, Loss Control Officer

Other Contact/Representative Telephone Numbers

Telephone: 352.253.6669

Fax: 352.343.3779

Cell phone: 352.267.2350

E-mail: wellsr@lake.k12.fl.us

Other Contact/Representative Representative Mailing Address

Organization/Firm: Lake County Schools

Street Address: 201 W. Burleigh Blvd.

City: Tavares

County: LAKE

Zip Code: 32778

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Material Usage Rates

If this is an **initial registration** for a surface coating operation, provide an estimate of the average quantity of volatile organic compounds in all coatings (solvents and thinners) expected to be used on a daily basis.

2 to 3 lb VOC/day

If this is a **re-registration** for an existing surface coating operation, provide the highest monthly average of the daily quantity of volatile organic compounds in all coatings (solvents and thinners) used in the last five years. Indicate the month and year during which this usage occurred.

N/A

Description of Facility

Below, or as an attachment to this form, provide a description of the surface coating operations at the facility in sufficient detail to demonstrate the facility's eligibility for use of this air general permit and to provide a basis for tracking any future equipment or process changes at the facility. Describe all air pollutant-emitting processes and equipment at the facility, and identify any air pollution control measures or equipment used.

This surface coating operation will be utilized to re-finish the School Buses and White Fleet vehicles used by the Lake County Schools. Re-finish is defined as re-coating an area of a vehicle that has been repaired from a result of damage due to a crash incident. As an example, this could be re-finishing a side panel of a 77-passenger school bus, utilizing one quarter gallon of primer and one half gallon of a finish coating. This type of operation would typically be performed four to five days per month.

Spray application of coating will be conducted in an existing paint booth equipped with particulate matter filters located within a building recently purchased by Lake County School District for use as a transportation facility. The total VOC use for the operation from all coating materials is expected to be well below the Air General Permit limit of 44 lb VOC/day per 62-210.310(4)(c)2a, F.A.C. (expected to be 2-3 lb VOC/day). Coating use, VOC contents, and monthly average daily VOC rates will be tracked using a Microsoft Excel™ spreadsheet to demonstrate on-going compliance with Air General Permit requirements.

The facility is eligible for coverage under the Air General Permit because the facility uses no other general air permit per 62-210.310(4)(c)1a, F.A.C., and the facility is not subject to any unit-specific limitation or requirement other than set forth in the Air General Permit per 62-210.310(4)(c)1b, F.A.C., as demonstrated below:

- 62-296.513, F.A.C. – Surface Coating of Miscellaneous Metal Parts and Products – automobile surface coating is exempted under this rule.
- 40 CFR 60, Subpart MM – Standards of Performance for Automobile and Light Duty Truck Surface Coating Operations – applies only to affected sources in automobile assembly plants. This facility is not an automobile assembly plant.
- 40 CFR 63, Subpart IIII – National Emission Standards for Hazardous Air Pollutants: Surface Coating of Automobiles and Light-Duty Trucks – applies only to major sources of hazardous air pollutants (HAPs). This facility will not be a major source of HAPs.
- 40 CFR 63, Subpart Mmmm – National Emission Standards for Hazardous Air Pollutants for Surface Coating of Miscellaneous Metal Parts and Products – applies only to major sources of hazardous air pollutants (HAPs). This facility will not be a major source of HAPs.
- 40 CFR 63, Subpart HHHHHH – National Emission Standards for Hazardous Air Pollutants: Paint Stripping and Miscellaneous Surface Coating Operations at Area Sources – has not been adopted by reference at 62-204.800, F.A.C. As defined in 62-210.200(318), F.A.C., any limitation or requirement under any subpart of 40 CFR 60, 61, or 63 that has not been adopted and incorporated by reference at 62-204.800, F.A.C. is not considered a unit-specific limitation or requirement for purposes of the Air General Permits

Helpful Definitions

“Coating” - The application of a protective, decorative, or functional film to a surface.

“Department” or **“DEP”** - The State of Florida Department of Environmental Protection.

“Emissions Unit” - Any part or activity of a facility that emits or has the potential to emit any air pollutant.

“Facility” - All of the emissions units which are located on one or more contiguous or adjacent properties, and which are under the control of the same person (or persons under common control).

“Owner” or **“Operator”** - Any person or entity who or which owns, leases, operates, controls or supervises an emissions unit or facility.

MANAGE & ACCOUNTING SERVICES
REVENUE
2012 APR 25 PM 12:33
FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Lake County School District
School Bus Repair Facility Paint Booth

Coating Composition Data

Coating	VOC (lb/gal)
800K 2K Primer Surfacer ⁽¹⁾	4.71
Rage 100102 Lightweight Bodyfiller ⁽²⁾	0.28
LB Bases & Colors without Lead ⁽³⁾	5.00
LR12 Limco Medium Reducer	7.30
LH310 Normal Urethane Hardener	1.30
LH810 Normal Primer Hardener	5.10
Premium Wash Thinner	7.09

⁽¹⁾ 11.9 lb/gal x 0.396 wt% VOC = 4.71 lb VOC/gal

⁽²⁾ Per MSDS, 1.48 lb VOC/gal as packaged, but 0.28 lb VOC/gal as applied because styrene reacts and becomes bonded in the solid material

⁽³⁾ The MSDS is a combined MSDS for multiple colors of varying VOC contents; per the BASF Hotline, the maximum VOC content is 5.00 lb VOC/gal

General Permit Compliance Tracking

General Permit Emission Limit per 62-210.310(4)(c)2a F.A.C.

44 lb VOC/day, averaged monthly

Month	800K Primer/Surfacer		RageBodyfiller		LB Bases & Colors		LR12 Reducer		LH310 Hardener		LH810 Hardener		Wash Thinner		Total Monthly VOC Emissions (lb/mo)	Days per Month	Average Daily VOC Emissions (lb/d)	Within General Permit Limit?
	Monthly Usage (gal/mo)	VOC Emissions (lb/mo)	Monthly Usage (gal/mo)	VOC Emissions (lb/mo)	Monthly Usage (gal/mo)	VOC Emissions (lb/mo)	Monthly Usage (gal/mo)	VOC Emissions (lb/mo)	Monthly Usage (gal/mo)	VOC Emissions (lb/mo)	Monthly Usage (gal/mo)	VOC Emissions (lb/mo)	Monthly Usage (gal/mo)	VOC Emissions (lb/mo)				
May 2012		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
June 2012		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
July 2012		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
August 2012		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
September 2012		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
October 2012		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
November 2012		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
December 2012		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
January 2013		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
February 2013		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	28	0.0	YES
March 2013		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
April 2013		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
May 2013		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
June 2013		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
July 2013		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
August 2013		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
September 2013		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
October 2013		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
November 2013		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
December 2013		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
January 2014		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
February 2014		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	28	0.0	YES
March 2014		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
April 2014		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
May 2014		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
June 2014		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
July 2014		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
August 2014		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
September 2014		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
October 2014		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
November 2014		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
December 2014		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
January 2015		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
February 2015		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	28	0.0	YES
March 2015		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
April 2015		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES

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2012 APR 28
PH 12:39

Month	800K Primer/Surfacer		RageBodyfiller		LB Bases & Colors		LR12 Reducer		LH310 Hardener		LH810 Hardener		Wash Thinner		Total Monthly VOC Emissions (lb/mo)	Days per Month	Average Daily VOC Emissions (lb/d)	Within General Permit Limit?
	Monthly Usage (gal/mo)	VOC Emissions (lb/mo)	Monthly Usage (gal/mo)	VOC Emissions (lb/mo)	Monthly Usage (gal/mo)	VOC Emissions (lb/mo)	Monthly Usage (gal/mo)	VOC Emissions (lb/mo)	Monthly Usage (gal/mo)	VOC Emissions (lb/mo)	Monthly Usage (gal/mo)	VOC Emissions (lb/mo)	Monthly Usage (gal/mo)	VOC Emissions (lb/mo)				
May 2015		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
June 2015		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
July 2015		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
August 2015		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
September 2015		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
October 2015		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
November 2015		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
December 2015		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
January 2016		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
February 2016		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	29	0.0	YES
March 2016		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
April 2016		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
May 2016		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
June 2016		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
July 2016		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
August 2016		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
September 2016		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
October 2016		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES
November 2016		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	30	0.0	YES
December 2016		0.0		0.0		0.0		0.0		0.0		0.0		0.0	0.0	31	0.0	YES

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION
 2012 APR 25 PM 12:39
 FINANCE & ACCOUNTING REVENUE



The Chemical Company

Safety data sheet

800K 2K PRIMER SURFACER

Revision date : 2010/07/27

Version: 1.1

Page: 1/11

(30164515/CDU_GEN_US/EN)

1. Substance/preparation and company identification

Company
BASF CORPORATION
100 Campus Drive
Florham Park, NJ 07932, USA

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS Number	Content (weight%)
kaolin	1332-58-7	5 - 15
OSHA PEL 5 mg/m3 R; PEL 15 mg/m3 T ACGIH TWA 2 mg/m3		
n-butylacetate	123-86-4	5 - 15
OSHA PEL 150 ppm 710 mg/m3 ACGIH STEL 200 ppm; TWA 150 ppm		
titanium dioxide	13463-67-7	5 - 15
OSHA PEL 15 mg/m3 T ACGIH TWA 10 mg/m3		
barium sulphate	7727-43-7	5 - 15
OSHA PEL 5 mg/m3 R; PEL 15 mg/m3 T ACGIH TWA 10 mg/m3		
xylene	1330-20-7	1 - 10
OSHA PEL 100 ppm 435 mg/m3 ACGIH STEL 150 ppm; TWA 100 ppm		
ethyl 3-ethoxypropionate	763-69-9	1 - 10
PEL/TLV not established		
zinc phosphate	7779-90-0	1 - 10
PEL/TLV not established		
solvent naphtha, light aromatic	64742-95-6	1 - 10
PEL/TLV not established		
talc	14807-96-6	1 - 10
ACGIH TWA 2 mg/m3		
Magnesium carbonate	546-93-0	0 - 5
OSHA PEL 5 mg/m3 R; PEL 15 mg/m3 T		
1,2,4-trimethylbenzene	95-63-6	0 - 5
ACGIH TWA 25 ppm		
1-methoxy-2-propyl acetate	108-65-6	0 - 5
PEL/TLV not established		
acetone	67-64-1	0 - 5
OSHA PEL 1000 ppm 2400 mg/m3 ACGIH STEL 750 ppm; TWA 500 ppm		
ethylbenzene	100-41-4	0 - 5

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2012 APR 25 PM 12:39
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REVENUE

Safety data sheet

800K 2K PRIMER SURFACER

Revision date : 2010/07/27
Version: 1.1

Page: 2/11
(30164515/CDU_GEN_US/EN)

OSHA PEL 100 ppm 435 mg/m³
ACGIH STEL 125 ppm; TWA 100 ppm
silicon dioxide 7631-86-9 0 - 5
PEL/TLV not established

R Respirable fraction
T Total dust

3. HAZARD IDENTIFICATION

HMIS III RATING

Health: 2⁰ Flammability: 3 Physical hazard: 0

HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates high hazard.

EMERGENCY OVERVIEW

WARNING

FLAMMABLE LIQUID

HARMFUL IF INHALED

CAN CAUSE CENTRAL NERVOUS SYSTEM DAMAGE

CAN CAUSE LIVER DAMAGE

CAN CAUSE KIDNEY DAMAGE

MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION

CONTAINS A MATERIAL WHICH HAS BEEN IDENTIFIED AS A SUSPECT CANCER HAZARD.

MAY CAUSE PULMONARY EDEMA

INGESTION MAY CAUSE GASTRIC DISTURBANCES

POTENTIAL HEALTH EFFECTS

Primary routes of exposure:

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Solvents are absorbed through the skin.

Acute toxicity:

Inhalation may cause CNS depression, blurred vision, dizziness and drowsiness.

Overexposure may cause nausea and vomiting.

Inhalation causes headache and nausea.

Vapors have a suffocating effect.

Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.

Information on: acetone

Acute exposures to relatively large amounts of acetone can result in local effects, such as irritation to eyes, nose, throat, and respiratory tract as well as systemic effects such as central nervous system (CNS) depression, which can range in severity from lightheadedness to loss of consciousness depending on the magnitude and length of the exposure.

Safety data sheet

800K 2K PRIMER SURFACER

Revision date : 2010/07/27
Version: 1.1

Page: 3/11
(30164515/CDU GEN US/EN)

Information on: n-butyl acetate

Inhalation of butyl acetate vapors may result in headache, dizziness, nausea, irritation of the respiratory tract, and CNS depression. Prolonged inhalation exposures have been known to produce upper respiratory tract irritation and acute transient signs of reduced activity at concentrations at 1500 ppm and above in rats, with no cumulative neurotoxic effects. Overexposure may cause irritation of the eyes, nose and throat.

Information on: barium sulfate

Ingestion of soluble barium salts produces muscle stimulation, followed by severe gastric disturbances, increased blood pressure, and central nervous system effects.

Information on: ethyl 3-ethoxy propionate

Rats exposed to ethyl-3-ethoxy propionate by inhalation exhibited minor CNS effects.

Information on: ethyl benzene

Vapors are readily absorbed through the lungs. Inhalation of ethylbenzene vapors causes drowsiness, narcosis, headaches, cramps, and tightness of the chest. Severe overexposure can cause death due to respiratory center paralysis. If aspiration occurs, chemical pneumonitis or pulmonary edema may result. Ingestion may result in kidney or liver damage. Ethyl benzene is absorbed through the skin at a low rate.

Information on: kaolin

Inhalation of high acute concentrations of kaolin dust may produce physical irritation. Chronic inhalation of kaolin dust may produce respiratory symptoms and may also have a fibrogenic potential.

Information on: talc

Acute exposures to high concentrations of talc may produce cough, dyspnea, chest pain and weakness.

Information on: 1,2,4 trimethylbenzene

Inhalation of 1,2,4-trimethylbenzene may result in CNS effects including CNS depression, nausea, anxiety and headache. Aspiration of the liquid into the lungs may result in pulmonary edema and chemical pneumonitis. Asthmatic bronchitis may be aggravated by 1,2,4-trimethylbenzene exposure.

Information on: xylene

Aspiration of xylene may result in chemical pneumonitis, pulmonary edema and hemorrhage. Ingestion and skin absorption may lead to CNS depression, symptoms may include nausea, dizziness and blurred vision.

Information on: zinc oxide

Inhalation of zinc dusts may result in respiratory irritation. Inhalation of zinc fumes may cause "metal fume fever". Symptoms of metal fume fever include metallic taste, dryness, and irritation of the throat, difficult breathing, weakness, fatigue and fever.

Irritation:

Skin contact may result in irritation, defatting and dermatitis. Vapors cause irritation to the respiratory tract and the eyes. Prolonged inhalation of product vapor can result in irritation of the mucous membranes.

Information on: ethyl benzene

Ethylbenzene is extremely irritating to the eyes, skin and

Safety data sheet

800K 2K PRIMER SURFACER

Revision date : 2010/07/27
Version: 1.1

Page: 4/11
(30164515/CDU_GEN_US/EN)

upper respiratory tract. Eye contact may result in conjunctivitis and corneal injury.

Repeated dose toxicity:

Information on: acetone

High doses of acetone (500 and 2500 mg/kg/day) administered by oral gavage to rats for 90 consecutive days resulted in some clinical chemistry and blood changes as well as increased absolute/relative liver and kidney weights. Histopathological examination of both organs showed acetone did not affect the liver but appeared to accentuate the kidney changes which accompany aging. No effects were observed at 100 mg/kg/day. Chronic occupational exposures to acetone at levels ranging from 300 to 100 ppm have reportedly been associated with irritation and mild CNS effects but have not affected clinical chemistry parameters or worker mortality.

Information on: n-butyl acetate

In a teratogenicity study, pregnant rabbits were exposed to n-butyl acetate vapors at 0 or 1500 ppm from day 1 to day 19 of gestation; pregnant rats were exposed at the same concentrations from day 1 to day 16 of gestation. Body weight changes were observed in the rats but not the rabbits. Reproductive performance was not affected. Rabbit fetus size was not affected by exposure, but fetal size in all exposed groups of rats was reduced, suggesting embryotoxicity.

Information on: ethyl 3-ethoxy propionate

In teratology studies, pregnant rats exposed by inhalation exhibited slight fetotoxicity at the maternally toxic concentration of 1000 ppm.

Information on: ethyl benzene

Animal studies indicate that chronic overexposure to ethylbenzene may cause liver and kidney injury. Increased liver and kidney weight were found in rats exposed to 400 ppm for 186 days. Animal studies indicate that the vapors may be embryotoxic. Prolonged skin contact will cause edema and blistering. In NTP 2-year inhalation studies, clear evidence of carcinogenicity of ethylbenzene in male rats was noted based on increased incidences of kidney neoplasms. Incidences of testicular adenoma were also increased. In female rats, male mice and female mice there was some evidence of carcinogenicity, based on kidney adenoma, lung neoplasms and liver neoplasms, respectively. The International Agency for Research on Cancer (IARC) has classified ethylbenzene in Category 2B, sufficient evidence of carcinogenicity in animals.

Information on: amorphous silica

In recent studies, fumed and precipitated synthetic amorphous silicas were fibrogenic to the lungs of monkeys, with the fumed form being the most active type.

Information on: talc

Prolonged or repeated exposure to talc can result in a form of pulmonary fibrosis (talc pneumoconiosis), possibly due to asbestos content. In a National Toxicology Program (NTP) inhalation study, talc exhibited some evidence of carcinogenicity in male rats, clear evidence in female rats and no evidence in mice. It is thought that the effects, which were reported at the high dose, were due to overburdening of the lungs.

Safety data sheet

800K 2K PRIMER SURFACER

Revision date : 2010/07/27
Version: 1.1

Page: 5/11
(30164515/CDU_GEN_US/EN)

Information on: titanium dioxide

IARC (International Agency for Research on Cancer) has classified this substance as group 2B (The agent is possibly carcinogenic to humans). In long-term studies in rats in which the substance was given by inhalation, a carcinogenic effect was observed. Tumors were only observed in rats after chronic inhalative exposure to high concentrations which caused sustained lung inflammation. In long-term studies in rats and mice in which the substance was given by feed, a carcinogenic effect was not observed. Dermal exposure is not expected to be carcinogenic.

Information on: 1,2,4 trimethylbenzene

In a subchronic toxicity study, male rats were gavaged with either 0.5 or 2.0 g/kg 1,2,4-trimethylbenzene once daily, for 5 days/week for four weeks. Mortality occurred in 1 rat from the low dose group; all rats died in the high dose group during the study.

Information on: xylene

The chronic effects of overexposure to xylene include possible liver and kidney damage. A mixture of o, m, and p-xylenes was teratogenic and embryo toxic to mice by the oral route; however, these effects were accompanied by maternal toxicity. Rats exposed to 1000 mg/m³ by inhalation exhibited no teratogenic effects; however, minor skeletal abnormalities occurred.

Information on: zinc oxide

Thirteen of nineteen workers in zinc powder factory were reported to exhibit inflammation of the upper respiratory tract after 2 to 3 years of employment. Limited studies on the developmental toxicity of zinc oxide in animals indicate that doses as high as 200 mg/kg have caused reduced fetal body weight and fetal death.

4. FIRST-AID MEASURES

General advice:

Remove contaminated clothing.

Contact the local poison control center or call BASF Emergency Response at 1-800-832-HELP (4357).

If inhaled:

Keep patient calm, remove to fresh air.

If breathing difficulties develop, aid in breathing and seek immediate medical attention.

If on skin:

Wash affected areas with water for at least 15 minutes.

If irritation develops, seek medical attention.

If in eyes:

Flush with copious amounts of water for at least 15 minutes.

Hold eyelids open to facilitate rinsing.

Seek medical attention.

If swallowed:

Rinse mouth and then drink plenty of water.

Do not induce vomiting due to aspiration hazard.

Safety data sheet

800K 2K PRIMER SURFACER

Revision date : 2010/07/27
Version: 1.1

Page: 6/11
(30164515/CDU_GEN_US/EN)

Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.
Immediate medical attention is required.
Ingestion may cause irritation of the gastrointestinal tract.
Aspiration may result in chemical pneumonitis, which may be fatal.

5. FIRE FIGHTING MEASURES

Flash point: 55 °F (12.8 °C) (calculated)
Lower explosion limit: 1.0 VOL%
Upper explosion limit: 12.8 VOL%

Suitable extinguishing media:
Dry extinguishing media
Carbon dioxide
Foam

Unsuitable extinguishing media for safety reasons:
Water spray

Hazards during firefighting:
Vapors and/or decomposition products are irritants and/or toxic.
If product is heated above decomposition temperatures, acrid smoke and fumes will be released.

Protective equipment for firefighting:
Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:
Vapors are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition. Flash fire may occur.
Remove product from areas of fire or otherwise cool sealed containers with water in order to avoid pressure build-up due to heat.
Do not flood burning material with water due to potential spreading of fire.
Contain contaminated water/firefighting water.
Run-off water from fire may cause pollution.
Notify proper authorities.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:
Extinguish sources of ignition nearby and downwind.
Wear suitable personal protective clothing and equipment.
Ensure adequate ventilation.
Avoid prolonged inhalation.
Avoid contact with skin and eyes.
Use antistatic tools.

Environmental precautions:
Do not discharge into drains/surface waters/groundwater.
A spill of or in excess of the reportable quantity requires notification to state, local and national emergency authorities.

Safety data sheet

800K 2K PRIMER SURFACER

Revision date : 2010/07/27
Version: 1.1

Page: 7/11
(30164515/CDU_GEN_US/EN)

Acutely toxic for aquatic organisms.

Cleanup:

Dike spillage.

Place into appropriately labeled waste containers.

Spills should be contained, solidified, and placed in suitable containers for disposal.

7. HANDLING AND STORAGE

HANDLING

General advice:

Ensure adequate ventilation.

Do not puncture, drop or slide containers.

Use static lines when mixing and transferring material.

Handle and open container with care.

Avoid contact with the skin, eyes and clothing.

WARNING: Empty containers may still contain hazardous residue.

Do not apply to hot surfaces.

Proper ventilation and respiratory protection is required when sanding, flame cutting, welding or brazing coated surfaces.

Protection against fire and explosion:

Use antistatic tools.

Exhaust fans should be explosion proof.

Provide adequate ventilation to remove solvent vapors from lower levels or work areas and to prevent solvent contact with ignition sources.

Sealed containers should be protected against heat as this results in pressure build-up.

Risk of explosion if heated under confinement.

Avoid all sources of ignition: heat, sparks, or open flame.

STORAGE

General advice:

Keep container tightly closed.

Protect from direct sunlight.

Protect from temperatures above 49C/ 120F.

Consult local fire marshal for storage requirements.

Storage incompatibility:

General: Segregate from incompatible substances.

Segregate from oxidizing agents.

Segregate from strong bases.

Segregate from strong acids.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

See section 2.

ADVICE ON SYSTEM DESIGN

Provide local exhaust ventilation to maintain recommended P.E.L.

General mechanical ventilation should comply with OSHA 1910.94.

Safety data sheet

800K 2K PRIMER SURFACER

Revision date : 2010/07/27
Version: 1.1

Page: 8/11
(30164515/CDU_GEN_US/EN)

PERSONAL PROTECTIVE EQUIPMENT

Respiratory protection:

Wear respiratory protection if ventilation is inadequate.
Wear NIOSH-certified (or equivalent) organic vapor respirator.
Particulate filters should be added during spray operations.
Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination.
Observe OSHA regulations for respirator use (29 CFR 1910.134).

Hand protection:

Use appropriate chemically resistant gloves as determined by an evaluation of glove performance characteristics and the hazards and potential hazards identified, including but not limited to butyl, natural and synthetic rubber, nitrile, or neoprene.

Eye protection:

Tightly fitting safety goggles (chemical goggles).
Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen based on activity level and exposure.

General safety and hygiene measures:

Work place should be equipped with a shower and eye wash.
Contact lenses should not be worn.
Remove contaminated clothing.
Contaminated equipment or clothing should be cleaned after each use or disposed of.
Hands and/or face should be washed before breaks and at the end of the shift.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: liquid
Odour: solvent-like
Colour: light grey
Boiling range: 133 - 338 °F / 56.1 - 170.0 °C
Vapour pressure: n.d.a.
Weight per gallon: 11.90 lb/gal CALC
Vapour density: heavier than air
Solids content: approx. 60 % / 36.3304 VOL%
% volatiles: approx. 39.6 % / 63.7 VOL%

10. STABILITY AND REACTIVITY

Conditions to avoid:

Avoid all sources of ignition: heat, sparks or open flames.
Avoid electrostatic discharge.

Substances to avoid:

Strong bases
Strong oxidizing agents
Strong acids

Safety data sheet

800K 2K PRIMER SURFACER

Revision date : 2010/07/27
Version: 1.1

Page: 9/11
(30164515/CDU GEN US/EN)

Hazardous reactions:
This product is chemically stable.

Decomposition products:
Carbon monoxide
Carbon dioxide

11. TOXICOLOGICAL INFORMATION

No data available.

12. ECOLOGICAL INFORMATION

No data available.

13. DISPOSAL CONSIDERATIONS

Waste disposal of substances:
Dispose of in accordance with national, state and local regulations.
The use and processing of this product, or addition of other constituents, may cause it to be considered a hazardous waste. It is the waste generators responsibility to determine if a particular waste is hazardous under RCRA.
Do not discharge into drains/surface waters/groundwater.
Incinerate or dispose of in a RCRA licensed facility.
Do not incinerate closed containers.

Contaminated packaging:
WARNING: Empty containers may still contain hazardous residue.
Dispose of in accordance with national, state and local regulations.

14. TRANSPORT INFORMATION

Land transport
USDOT

Proper shipping name:	Paint
Hazard class:	3
ID-number:	UN 1263
Packing group:	II

Sea transport
IMDG

Proper shipping name:	Paint
Hazard class:	3
ID-number:	UN 1263
Packing group:	II

Air transport
IATA/ICAO

Safety data sheet

800K 2K PRIMER SURFACER

Revision date : 2010/07/27
Version: 1.1

Page: 10/11
(30164515/CDU_GEN_US/EN)

Proper shipping name: Paint
Hazard class: 3
ID-number: UN 1263
Packing group: II

15. REGULATORY INFORMATION

FEDERAL REGULATIONS

TSCA, US released / listed

SARA 313:

CAS number	Weight%	Chemical name
1330-20-7	6.6	xylene
7779-90-0	5.0	zinc phosphate
95-63-6	2.6	1,2,4-trimethylbenzene
100-41-4	1.5	ethylbenzene

STATE REGULATIONS

State RTK:

CAS Number	Chemical name
1332-58-7	kaolin
123-86-4	n-butylacetate
13463-67-7	titanium dioxide
7727-43-7	barium sulphate
489909-5019-P-NLR	Styrenated acrylic modified polyester
1330-20-7	xylene
763-69-9	ethyl 3-ethoxypropionate
7779-90-0	zinc phosphate
64742-95-6	solvent naphtha, light aromatic
14807-96-6	talc
546-93-0	Magnesium carbonate
95-63-6	1,2,4-trimethylbenzene
108-65-6	1-methoxy-2-propyl acetate
67-64-1	acetone
100-41-4	ethylbenzene
7631-86-9	silicon dioxide

California Proposition 65 information:

WARNING: This product contains a chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

16. OTHER INFORMATION

Recommended use: FOR INDUSTRIAL USE ONLY.

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY

Safety data sheet

800K 2K PRIMER SURFACER

Revision date : 2010/07/27
Version: 1.1

Page: 11/11
(30164515/CDU_GEN_US/EN)

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The Chemical Company

Safety data sheet

LB Bases & Colors without Lead

Revision date : 2007/11/13

Page: 1/16

Version: 1.1

(30274068/CDU_GEN_US/EN)

1. Substance/preparation and company identification

Company

BASF CORPORATION
100 Campus Drive
Florham Park, NJ 07932

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS Number	Content (weight%)
xylene OSHA PEL 100 ppm 435 mg/m3 ACGIH STEL 150 ppm; TWA 100 ppm	1330-20-7	0 - 45
acetone OSHA PEL 1000 ppm 2400 mg/m3 ACGIH STEL 750 ppm; TWA 500 ppm	67-64-1	0 - 20
ethylbenzene OSHA PEL 100 ppm 435 mg/m3 ACGIH STEL 125 ppm; TWA 100 ppm	100-41-4	0 - 10
toluene OSHA CLV 300 ppm; TWA 200 ppm; max. conc. 500 ppm ACGIH TWA 50 ppm	108-88-3	0 - 10
n-butyl acetate OSHA PEL 150 ppm 710 mg/m3 ACGIH STEL 200 ppm; TWA 150 ppm	123-86-4	0 - 30
solvent naphtha, light aromatic PEL/TLV not established	64742-95-6	0 - 20
ethyl 3-ethoxypropionate PEL/TLV not established	763-69-9	0 - 20
methyl isoamyl ketone OSHA PEL 100 ppm 475 mg/m3 ACGIH TWA 50 ppm	110-12-3	0 - 15
1-butanol OSHA PEL 100 ppm 300 mg/m3 ACGIH TWA 20 ppm	71-36-3	0 - 5
copper phthalocyanine blue PEL/TLV not established	147-14-8	0 - 5
antimony trioxide OSHA PEL 0.5 mg/m3 ACGIH TWA 0.5 mg/m3	1309-64-4	0 - 5
ferric ferrocyanide OSHA PEL 5 mg/m3 T	14038-43-8	0 - 10
titanium dioxide	13463-67-7	0 - 5

Safety data sheet

LB Bases & Colors without Lead

Revision date : 2007/11/13
Version: 1.1

Page: 2/16
(30274068/CDU_GEN_US/EN)

OSHA PEL 15 mg/m3 T		
ACGIH TWA 10 mg/m3		
mica	12001-26-2	0 - 10
ACGIH TWA 3 mg/m3		
stoddard solvent	8052-41-3	0 - 10
OSHA PEL 500 ppm 2900 mg/m3		
ACGIH TWA 100 ppm		
barium sulfate	7727-43-7	0 - 10
OSHA PEL 5 mg/m3 R; PEL 15 mg/m3 T		
ACGIH TWA 10 mg/m3		
aluminum	7429-90-5	0 - 10
ACGIH TWA 5 mg/m3		
carbon black	1333-86-4	0 - 5
OSHA PEL 3.5 mg/m3		
ACGIH TWA 3.5 mg/m3		
copper phthalocyanine	1328-53-6	0 - 5
PEL/TLV not established		
titanium dioxide	1317-80-2	0 - 45
PEL/TLV not established		
calcium molybdate	7789-82-4	0 - 10
OSHA PEL 5 mg/m3		
ACGIH TWA 0.5 mg/m3		
copper compound	68512-13-0	0 - 5
PEL/TLV not established		
amorphous precipitated silica	112926-00-8	0 - 10
PEL/TLV not established		
copper phthalocyanine	68987-63-3	0 - 10
PEL/TLV not established		
vm&p naphtha	64742-89-8	0 - 5
PEL/TLV not established		
petroleum naphtha, heavy	64742-48-9	0 - 5
PEL/TLV not established		
naphtha, heavy alkylate	64741-65-7	0 - 5
PEL/TLV not established		
iron oxide pigment	51274-00-1	0 - 15
PEL/TLV not established		
hindered amine light stabilizer	Proprietary	0 - 5
PEL/TLV not established		
aluminum hydroxide	21645-51-2	0 - 5
PEL/TLV not established		
copper phthalocyanine	15680-42-9	0 - 5
PEL/TLV not established		
talc	14807-96-6	0 - 10
ACGIH TWA 2 mg/m3		
bismuth vanadium oxide	14059-33-7	0 - 10
PEL/TLV not established		
iron oxide	1309-37-1	0 - 15
ACGIH TWA 5 mg/m3		
tert-butyl acetate	540-88-5	0 - 40
OSHA PEL 200 ppm 950 mg/m3		
ACGIH TWA 200 ppm		
methyl ethyl ketone	78-93-3	0 - 10
OSHA PEL 200 ppm 590 mg/m3		
ACGIH STEL 300 ppm; TWA 200 ppm		
1,3,5-trimethylbenzene	108-67-8	0 - 5
ACGIH TWA 25 ppm		
1,2,4-trimethylbenzene	95-63-6	0 - 10
ACGIH TWA 25 ppm		

Safety data sheet

LB Bases & Colors without Lead

Revision date: 2007/11/13
Version: 1.1

Page: 3/16
(30274068/CDU GEN_US/EN)

methyl ethyl ketoxime PEL/TLV not established	96-29-7	0 - 5
cobalt compound PEL/TLV not established	136-52-7	0 - 5
T Total dust		
R Respirable fraction		

3. HAZARD IDENTIFICATION

HMIS III RATING

Health: 2* Flammability: 3 Physical hazard: 0

HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates high hazard.

EMERGENCY OVERVIEW

WARNING

FLAMMABLE LIQUID

HARMFUL IF INHALED

CAN CAUSE CENTRAL NERVOUS SYSTEM DAMAGE

CAN CAUSE LIVER DAMAGE

CAN CAUSE KIDNEY DAMAGE

MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION

CONTAINS MATERIAL THAT MAY CAUSE ALLERGIC SKIN REACTION

CONTAINS MATERIAL THAT MAY CAUSE ALLERGIC RESPIRATORY REACTION

MAY CAUSE ALLERGIC OR ASTHMATIC SYMPTOMS OR BREATHING DIFFICULTIES IF INHALED.

CONTAINS A MATERIAL WHICH HAS BEEN IDENTIFIED AS A SUSPECT CANCER HAZARD.

MAY CAUSE PULMONARY EDEMA

INGESTION MAY CAUSE GASTRIC DISTURBANCES

POTENTIAL HEALTH EFFECTS

Primary routes of exposure:

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Solvents are absorbed through the skin.

Acute toxicity:

Inhalation may cause CNS depression, blurred vision, dizziness and drowsiness.

Overexposure may cause nausea and vomiting.

Inhalation causes headache and nausea.

Vapors have a suffocating effect.

Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.

May cause sensitization by skin contact.

Information on: acetone

Acute exposures to relatively large amounts of acetone can

Safety data sheet

LB Bases & Colors without Lead

Revision date : 2007/11/13
Version: 1.1

Page: 4/16
(30274068/CDU_GEN_US/EN)

result in local effects, such as irritation to eyes, nose, throat, and respiratory tract as well as systemic effects such as central nervous system (CNS) depression, which can range in severity from lightheadedness to loss of consciousness depending on the magnitude and length of the exposure.

Information on: aluminum hydroxide

Prolonged or excessive large doses of Aluminum hydroxide via oral ingestion may cause encephalopathy, adverse CNS effects, G.I. obstruction, constipation, neurological effects and musculoskeletal effects.

Information on: antimony trioxide

Inhalation of high levels of antimony trioxide fumes may cause irritation of the mouth, nose and throat.

Information on: n-butyl acetate

Inhalation of butyl acetate vapors may result in headache, dizziness, nausea, irritation of the respiratory tract, and CNS depression. Prolonged inhalation exposures have been known to produce upper respiratory tract irritation and acute transient signs of reduced activity at concentrations at 1500 ppm and above in rats, with no cumulative neurotoxic effects. Overexposure may cause irritation of the eyes, nose and throat.

Information on: barium sulfate

Ingestion of soluble barium salts produces muscle stimulation, followed by severe gastric disturbances, increased blood pressure, and central nervous system effects.

Information on: 1-butanol

Acute overexposure to high vapor concentrations of butanol may produce central nervous system depression and irritation to the mucous membranes. Severe eye irritation with burning sensation, blurring of vision, lachrymation and photophobia has been known to occur in workers exposed up to 200 ppm. Overexposure in workers outside of the United States has been reported to produce effects like auditory nerve damage, vestibular injury and increased hearing loss. Acute dermal contact may produce skin irritation and dermatitis.

Information on: carbon black

Acute exposure to carbon black dusts may be irritating to the eyes, skin and respiratory tract.

Information on: ethyl 3-ethoxy propionate

Rats exposed to ethyl-3-ethoxy propionate by inhalation exhibited minor CNS effects.

Information on: ethyl benzene

Vapors are readily absorbed through the lungs. Inhalation of ethylbenzene vapors causes drowsiness, narcosis, headaches, cramps, and tightness of the chest. Severe overexposure can cause death due to respiratory center paralysis. If aspiration occurs, chemical pneumonitis or pulmonary edema may result. Ingestion may result in kidney or liver damage. Ethyl benzene is absorbed through the skin at a low rate.

Information on: methyl ethyl ketone

Inhalation of high concentrations of methyl ethyl ketone may produce irritation to the nose, throat and eyes; CNS effects and peripheral neuropathy. Ingestion of high oral doses may produce liver damage.

Information on: methyl isoamyl ketone

Methyl isoamyl ketone is a CNS depressant at high airborne concentrations. Overexposure may result in lightheadedness,

Safety data sheet

LB Bases & Colors without Lead

Revision date : 2007/11/13
Version: 1.1

Page: 5/16
(30274068/CDU_GEN_US/EN)

dizziness, headache, weakness and incoordination.

Information on: mica

Mica is moderately toxic by ingestion. Inhalation of mica powders may result in irritation of the respiratory tract.

Information on: stoddard solvent

Inhalation of low concentrations of stoddard solvent causes CNS effects and irritation to the eyes, nose and throat.

Contact with the skin may result in irritation.

Information on: talc

Acute exposures to high concentrations of talc may produce cough, dyspnea, chest pain and weakness.

Information on: 1,2,4 trimethylbenzene

Inhalation of 1,2,4-trimethylbenzene may result in CNS effects including CNS depression, nausea, anxiety and headache.

Aspiration of the liquid into the lungs may result in pulmonary edema and chemical pneumonitis. Asthmatic bronchitis may be aggravated by 1,2,4-trimethylbenzene exposure.

Information on: toluene

Inhalation may be irritating and result in fatigue, headaches, CNS effects and narcosis. Severe inhalation overexposures may cause death by paralysis of the respiratory tract. Aspiration of toluene into the lungs can cause chemical pneumonitis which can be fatal.

Information on: xylene

Aspiration of xylene may result in chemical pneumonitis, pulmonary edema and hemorrhage. Ingestion and skin absorption may lead to CNS depression, symptoms may include nausea, dizziness and blurred vision.

Irritation:

Skin contact may result in irritation, defatting and dermatitis. Vapors cause irritation to the respiratory tract and the eyes. Prolonged inhalation of product vapor can result in irritation of the mucous membranes.

Information on: light stabilizer

This product contains an additive that may cause an allergic skin reaction.

Information on: ethyl benzene

Ethylbenzene is extremely irritating to the eyes, skin and upper respiratory tract. Eye contact may result in conjunctivitis and corneal injury.

Repeated dose toxicity:

Information on: acetone

High doses of acetone (500 and 2500 mg/kg/day) administered by oral gavage to rats for 90 consecutive days resulted in some clinical chemistry and blood changes as well as increased absolute/relative liver and kidney weights. Histopathological examination of both organs showed acetone did not affect the liver but appeared to accentuate the kidney changes which accompany aging. No effects were observed at 100 mg/kg/day. Chronic occupational exposures to acetone at levels ranging from 300 to 100 ppm have reportedly been associated with irritation and mild CNS effects but have not affected clinical chemistry parameters or worker mortality.

Information on: antimony trioxide

Chronic overexposure to antimony trioxide may result in lung,

Safety data sheet

LB Bases & Colors without Lead

Revision date : 2007/11/13
Version: 1.1

Page: 6/16
(30274068/CDU_GEN_US/EN)

liver and heart injury and anemia. Lifetime inhalation studies with rats indicate that antimony trioxide and antimony ore caused lung tumors. The American Conference of Governmental Hygienists (ACGIH), has concluded that antimony trioxide is a suspected human carcinogen (A2). Antimony trioxide is also listed in Group 2B (sufficient evidence of carcinogenicity in animals) by IARC.

Information on: n-butyl acetate

In a teratogenicity study, pregnant rabbits were exposed to n-butyl acetate vapors at 0 or 1500 ppm from day 1 to day 19 of gestation; pregnant rats were exposed at the same concentrations from day 1 to day 16 of gestation. Body weight changes were observed in the rats but not the rabbits. Reproductive performance was not affected. Rabbit fetus size was not affected by exposure, but fetal size in all exposed groups of rats was reduced, suggesting embryotoxicity.

Information on: 1-butanol

Chronic dermal exposures to butanol may cause drying and fissuring of the skin. Liver, lung, and kidney effects have been noted in guinea pigs after repeated inhalation exposures up to 100 ppm. Developmental effects like skeletal malformations in the presence of maternal toxicity has been reported to occur at very high doses (8000 ppm) in rats.

Information on: carbon black

Prolonged inhalation exposures may produce cough, phlegm, tiredness, chest pain and headache. Dermal, inhalation or mucosal exposures may cause irritation. Chronic exposures to carbon black have been known to produce pneumoconiosis (chronic inflammatory and fibrotic lung disease) in workers. IARC has classified carbon black in Group 2B (sufficient evidence of carcinogenicity in animals).

Information on: copper compounds

Chronic overexposure to copper compounds can lead to anemia, and damage to the liver, kidneys, lungs and spleen. The copper in copper phthalocyanines is covalently bound and has been found to be biologically unavailable.

Information on: ethyl 3-ethoxy propionate

In teratology studies, pregnant rats exposed by inhalation exhibited slight fetotoxicity at the maternally toxic concentration of 1000 ppm.

Information on: ethyl benzene

Animal studies indicate that chronic overexposure to ethylbenzene may cause liver and kidney injury. Increased liver and kidney weight were found in rats exposed to 400 ppm for 186 days. Animal studies indicate that the vapors may be embryotoxic. Prolonged skin contact will cause edema and blistering. In NTP 2-year inhalation studies, clear evidence of carcinogenicity of ethylbenzene in male rats was noted based on increased incidences of kidney neoplasms. Incidences of testicular adenoma were also increased. In female rats, male mice and female mice there was some evidence of carcinogenicity, based on kidney adenoma, lung neoplasms and liver neoplasms, respectively. The International Agency for Research on Cancer (IARC) has classified ethylbenzene in Category 2B, sufficient evidence of carcinogenicity in animals.

Information on: iron oxide

Chronic overexposure to iron oxide fume or dust has been

Safety data sheet

LB Bases & Colors without Lead

Revision date : 2007/11/13
Version: 1.1

Page: 7/16
(30274068/CDU GEN US/EN)

associated with x-ray changes of the lungs; however, it does not result in illness. Changes are due to a benign lung condition called siderosis, or iron pigmentation. Animal studies indicate that chronic overexposure to iron oxide dust does not cause lung impairment or fibrosis. However, workers exposed to iron oxide fume in the presence of silica may develop mixed dust pneumoconiosis. Direct contact with dust or fume may result in burns to the skin and eyes and may produce damage.

Information on: methyl ethyl ketone

Methyl ethyl ketone was teratogenic and embryotoxic to rats by inhalation at concentrations of 1,000 and 3,000 ppm. Repeated skin contact may result in dermatitis.

Information on: methyl ethyl ketoxime

Animal studies indicate that prolonged overexposure to MEKO may cause injury to the blood, spleen, lungs and kidneys. In a lifetime inhalation study, mice and rats were exposed to MEKO at concentrations of 0, 17, 75 (76 in mice) or 374 ppm. Nasal tissue damage was observed at all levels. Liver cancer was also reported in male rats and mice at the high dose and in male rats at 75 ppm.

Information on: methyl ethyl ketoxime

In teratology studies, no fetal toxicity was observed in rats administered MEKO by gavage; however, MEKO was embryotoxic, but not teratogenic, to rabbits in a gavage study. Maternal toxicity was reported in both studies.

Information on: methyl ethyl ketoxime

In a reproduction study with rats, MEKO did not exhibit reproductive or postnatal toxicity.

Information on: methyl isoamyl ketone

Inhalation of 1000 and 2000 ppm methyl isoamyl ketone for 96 days caused liver and kidney injury in rats.

Information on: mica

Chronic inhalation overexposure to mica may result in pneumoconiosis including difficult breathing, cough, and x-ray changes of the lungs.

Information on: amorphous silica

In recent studies, fumed and precipitated synthetic amorphous silicas were fibrogenic to the lungs of monkeys, with the fumed form being the most active type.

Information on: stoddard solvent

Repeated dermal contact with stoddard solvent may result in follicular dermatitis. Repeated exposures may result in irreversible effects on the CNS system and kidney damage, liver damage and pulmonary congestion.

Information on: talc

Prolonged or repeated exposure to talc can result in a form of pulmonary fibrosis (talc pneumoconiosis), possibly due to asbestos content. In a National Toxicology Program (NTP) inhalation study, talc exhibited some evidence of carcinogenicity in male rats, clear evidence in female rats and no evidence in mice. It is thought that the effects, which were reported at the high dose, were due to overburdening of the lungs.

Information on: titanium dioxide

In a National Cancer Institute (NCI) feeding study, titanium dioxide was not carcinogenic to rats or mice at maximum tolerated doses. In another study, TiO₂ caused fibrosis and

Safety data sheet

LB Bases & Colors without Lead

Revision date : 2007/11/13
Version: 1.1

Page: 8/16
(30274068/CDU_GEN_US/EN)

lung cancer in rats exposed to 250 mg/m³ by inhalation.
However, no effects were seen at lower airborne concentrations.

Information on: 1,2,4 trimethylbenzene

In a subchronic toxicity study, male rats were gavaged with either 0.5 or 2.0 g/kg 1,2,4-trimethylbenzene once daily, for 5 days/week for four weeks. Mortality occurred in 1 rat from the low dose group; all rats died in the high dose group during the study.

Information on: toluene

Chronic overexposure to toluene may result in liver and kidney damage. Animal studies indicate that toluene is embryotoxic and teratogenic when administered at high doses.

Information on: xylene

The chronic effects of overexposure to xylene include possible liver and kidney damage. A mixture of o, m, and p-xylenes was teratogenic and embryo toxic to mice by the oral route; however, these effects were accompanied by maternal toxicity. Rats exposed to 1000 mg/m³ by inhalation exhibited no teratogenic effects; however, minor skeletal abnormalities occurred.

4. FIRST-AID MEASURES

General advice:

Remove contaminated clothing.

Contact the local poison control center or call BASF Emergency Response at 1-800-832-HELP (4357).

If inhaled:

Keep patient calm, remove to fresh air.

If breathing difficulties develop, aid in breathing and seek immediate medical attention.

If on skin:

Wash affected areas with water for at least 15 minutes.

If irritation develops, seek medical attention.

If in eyes:

Flush with copious amounts of water for at least 15 minutes.

Hold eyelids open to facilitate rinsing.

Seek medical attention.

If swallowed:

Rinse mouth and then drink plenty of water.

Do not induce vomiting due to aspiration hazard.

Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions.

Immediate medical attention is required.

Ingestion may cause irritation of the gastrointestinal tract.

Aspiration may result in chemical pneumonitis, which may be fatal.

5. FIRE FIGHTING MEASURES

Flash point: 14 - 92 °F (10.0- - 33.3 °C) +/- 3 °F Setflash
Closed Cup (measured)

Safety data sheet

LB Bases & Colors without Lead

Revision date : 2007/11/13
Version: 1.1

Page: 9/16
(30274068/CDU_GEN_US/EN)

Lower explosion limit: 0.5 - 1.1 VOL%
Upper explosion limit: 6.6 - 12.8 VOL%

Suitable extinguishing media:
Dry extinguishing media
Carbon dioxide
Foam

Unsuitable extinguishing media for safety reasons:
Water spray

Hazards during firefighting:
Flammable gases/vapors.
Vapors and/or decomposition products are irritants and/or toxic.
If product is heated above decomposition temperatures, acrid smoke and fumes will be released.

Protective equipment for firefighting:
Wear self-contained breathing apparatus and turn-out gear.

Further information:
Vapors are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition. Flash fire may occur.
Remove product from areas of fire or otherwise cool sealed containers with water in order to avoid pressure build-up due to heat.
Do not flood burning material with water due to potential spreading of fire.
Contain contaminated water/firefighting water.
Run-off water from fire may cause pollution.
Notify proper authorities.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:
Extinguish sources of ignition nearby and downwind.
Wear suitable personal protective clothing and equipment.
Ensure adequate ventilation.
Avoid prolonged inhalation.
Avoid contact with skin and eyes.
Use antistatic tools.

Environmental precautions:
Do not discharge into drains/surface waters/groundwater.
A spill of or in excess of the reportable quantity requires notification to state, local and national emergency authorities.
Acutely toxic for aquatic organisms.

Cleanup:
Dike spillage.
Place into appropriately labeled waste containers.
Spills should be contained, solidified, and placed in suitable containers for disposal.

7. HANDLING AND STORAGE

Safety data sheet

LB Bases & Colors without Lead

Revision date : 2007/11/13
Version: 1.1

Page: 10/16
(30274068/CDU_GEN_US/EN)

HANDLING

General advice:

Ensure adequate ventilation.
Do not puncture, drop or slide containers.
Use static lines when mixing and transferring material.
Handle and open container with care.
Avoid contact with the skin, eyes and clothing.
WARNING: Empty containers may still contain hazardous residue.
Do not apply to hot surfaces.
Proper ventilation and respiratory protection is required when sanding, flame cutting, welding or brazing coated surfaces.

Protection against fire and explosion:

Use antistatic tools.
Exhaust fans should be explosion proof.
Provide adequate ventilation to remove solvent vapors from lower levels or work areas and to prevent solvent contact with ignition sources.
Sealed containers should be protected against heat as this results in pressure build-up.
Risk of explosion if heated under confinement.
Avoid all sources of ignition: heat, sparks, or open flame.

STORAGE

General advice:

Keep container tightly closed.
Protect from direct sunlight.
Protect from temperatures above 49C/ 120F.
Consult local fire marshal for storage requirements.

Storage incompatibility:

General: Segregate from incompatible substances.
Segregate from oxidizing agents.
Segregate from strong bases.
Segregate from strong acids.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS

See section 2.

ADVICE ON SYSTEM DESIGN

Provide local exhaust ventilation to maintain recommended P.E.L.
General mechanical ventilation should comply with OSHA 1910.94.

PERSONAL PROTECTIVE EQUIPMENT

Respiratory protection:

Wear respiratory protection if ventilation is inadequate.
Wear NIOSH-certified (or equivalent) organic vapor respirator.
Particulate filters should be added during spray operations.
Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination.
Observe OSHA regulations for respirator use (29 CFR 1910.134).

Safety data sheet

LB Bases & Colors without Lead

Revision date : 2007/11/13
Version: 1.1

Page: 11/16
(30274068/CDU_GEN_US/EN)

Hand protection:

Use appropriate chemically resistant gloves as determined by an evaluation of glove performance characteristics and the hazards and potential hazards identified, including but not limited to butyl, natural and synthetic rubber, nitrile, or neoprene.

Eye protection:

Tightly fitting safety goggles (chemical goggles).
Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen based on activity level and exposure.

General safety and hygiene measures:

Work place should be equipped with a shower and eye wash.
Contact lenses should not be worn.
Remove contaminated clothing.
Contaminated equipment or clothing should be cleaned after each use or disposed of.
Hands and/or face should be washed before breaks and at the end of the shift.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: liquid
Odour: solvent-like
Colour: various
Boiling range: 133 - 390 °F
Vapour pressure: not available
Weight per gallon: 7.83 - 13.22 lb/gal CALC
Vapour density: heavier than air
Solids content: approx. 39 - 75 %
% volatiles: approx. 38.0 - 67.0 VOL%

10. STABILITY AND REACTIVITY

Conditions to avoid:

Avoid all sources of ignition: heat, sparks or open flames.
Avoid electrostatic discharge.

Substances to avoid:

Strong bases
Strong oxidizing agents
Oxidizing agents
Strong acids

Hazardous reactions:

This product is chemically stable.

Decomposition products:

Carbon monoxide
Carbon dioxide

Safety data sheet

LB Bases & Colors without Lead

Revision date : 2007/11/13
Version: 1.1

Page: 12/16
(30274068/CDU_GEN_US/EN)

11. TOXICOLOGICAL INFORMATION

No data available.

12. ECOLOGICAL INFORMATION

No data available..

13. DISPOSAL CONSIDERATIONS

Waste disposal of substances:

Dispose of in accordance with national, state and local regulations.

The use and processing of this product, or addition of other constituents, may cause it to be considered a hazardous waste.

It is the waste generators responsibility to determine if a particular waste is hazardous under RCRA.

Do not discharge into drains/surface waters/groundwater.

Incinerate or dispose of in a RCRA licensed facility.

Do not incinerate closed containers.

Contaminated packaging:

WARNING: Empty containers may still contain hazardous residue.

Dispose of in accordance with national, state and local regulations.

14. TRANSPORT INFORMATION

Reference Bill of Lading.

15. REGULATORY INFORMATION

FEDERAL REGULATIONS

TSCA, US released / listed

SARA 313:

LB100:

ethylbenzene 0.1%; 1,2,4-trimethylbenzene 7.2%; toluene 5.3%;
xylene 23.1%;

LB104:

ethylbenzene 2.5%; 1,2,4-trimethylbenzene 3.2%; xylene 31.5%;
aluminum 4.8%;

LB105:

ethylbenzene 3.3%; 1,2,4-trimethylbenzene 4.7%; xylene 13.2%;

LB106:

ethylbenzene 2.5%; 1,2,4-trimethylbenzene 2.3%; xylene 32.4%;
aluminum 4.6%;

LB107:

ethylbenzene 2.5%; 1,2,4-trimethylbenzene 2.3%; xylene 32.6%;

Safety data sheet

LB Bases & Colors without Lead

Revision date : 2007/11/13
Version: 1.1

Page: 13/16
(30274068/CDU_GEN_US/EN)

aluminum 5.5%;

LB110:

ethylbenzene 2.5%; 1,2,4-trimethylbenzene 2.4%; xylene 31.5%;

LB116:

ethylbenzene 2.5%; 1,2,4-trimethylbenzene 2.4%; xylene 30.6%;

LB200:

ethylbenzene 0.6%; 1,2,4-trimethylbenzene 4.2%; xylene 28.6%;

LB201:

ethylbenzene 1.5%; 1,2,4-trimethylbenzene 3.2%; xylene 29.6%;
cyanide compound 7.3%;

LB202:

ethylbenzene 1.2%; 1,2,4-trimethylbenzene 2.3%; xylene 31.5%;

LB203:

ethylbenzene 1%; 1,2,4-trimethylbenzene 3.6%; xylene 28.8%;

LB205:

ethylbenzene 1.3%; 1,2,4-trimethylbenzene 2.9%; xylene 30.6%;

LB206:

ethylbenzene 0.2%; 1,2,4-trimethylbenzene 4.8%; xylene 27.1%;

LB207:

ethylbenzene 0.3%; 1,2,4-trimethylbenzene 3.8%; xylene 28.4%;

LB209:

ethylbenzene 2.9%; 1,2,4-trimethylbenzene 1.6%; xylene 35.9%;
copper compound 2.5%;

LB301:

ethylbenzene 1.1%; 1,2,4-trimethylbenzene 1.1%; xylene 32.1%;

LB302:

ethylbenzene 0.8%; 1,2,4-trimethylbenzene 3.2%; xylene 30.2%;

LB303:

ethylbenzene 1.9%; 1,2,4-trimethylbenzene 1.8%; xylene 33.3%;
copper compound 3.3%;

LB401:

ethylbenzene 0.7%; 1,2,4-trimethylbenzene 2.1%; xylene 30.7%;

LB402:

ethylbenzene 0.2%; 1,2,4-trimethylbenzene 4.5%; xylene 27.4%;

LB403:

ethylbenzene 0.7%; 1,2,4-trimethylbenzene 2.7%; xylene 29.3%;

LB500:

ethylbenzene 2.5%; 1,2,4-trimethylbenzene 1.9%; xylene 33.7%;

LB520:

ethylbenzene 0.8%; 1,2,4-trimethylbenzene 2.3%; xylene 29.8%;

Safety data sheet

LB Bases & Colors without Lead

Revision date : 2007/11/13
Version: 1.1

Page: 14/16
(30274068/CDU_GEN_US/EN)

LB530:

ethylbenzene 0.8%; 1,2,4-trimethylbenzene 2.3%; xylene 30%;

LB605:

ethylbenzene 1.7%; 1,2,4-trimethylbenzene 5.3%; xylene 28.3%;

LB608:

ethylbenzene 2.5%; 1,2,4-trimethylbenzene 1.7%; xylene 34.3%;

LB630:

ethylbenzene 1.7%; 1,2,4-trimethylbenzene 2.3%; xylene 28.9%;

LB704:

ethylbenzene 0.8%; 1,2,4-trimethylbenzene 2.2%; xylene 27.8%;

LB707:

ethylbenzene 0.2%; 1,2,4-trimethylbenzene 4.3%; xylene 27.1%;

LB708:

ethylbenzene 0.4%; 1,2,4-trimethylbenzene 4.5%; xylene 27.7%;

LB730:

ethylbenzene 1.4%; 1,2,4-trimethylbenzene 1.1%; xylene 25.6%;
bismuth vanadium oxide 8.5%;

LB740:

ethylbenzene 2.5%; 1,2,4-trimethylbenzene 1.1%; xylene 28.8%;

LB750:

ethylbenzene 1.4%; 1,2,4-trimethylbenzene 3.1%; xylene 25.7%;

LB800:

ethylbenzene 3.3%; xylene 37%;

LB804:

ethylbenzene 0.4%; 1,2,4-trimethylbenzene 3.8%; xylene 23.5%;

LB805:

ethylbenzene 1.9%; 1-butanol 2.4%; 1,2,4-trimethylbenzene 3.1%;
xylene 29.3%;

LB806:

ethylbenzene 2.2%; 1,2,4-trimethylbenzene 4.1%; xylene 27.1%;
copper compound 6.1%;

LB807:

ethylbenzene 1.3%; 1,2,4-trimethylbenzene 2.3%; xylene 29%;

LB900:

ethylbenzene 0.9%; 1,2,4-trimethylbenzene 3%; xylene 23.2%;

LB902:

ethylbenzene 0.1%; 1,2,4-trimethylbenzene 4.3%; xylene 27%;

LB905:

ethylbenzene 0.7%; 1,2,4-trimethylbenzene 2.6%; xylene 27.5%;

Safety data sheet

LB Bases & Colors without Lead

Revision date : 2007/11/13
Version: 1.1

Page: 15/16
(30274068/CDU_GEN_US/EN)

LMC1:

ethylbenzene 3.4%; cobalt compound 0.8%; xylene 40.7%;

LMC2:

ethylbenzene 7.1%; xylene 28.3%;

LMC3:

ethylbenzene 0.3%; 1,2,4-trimethylbenzene 4.2%; xylene 1.2%;

LMC4:

ethylbenzene 4.9%; xylene 23.8%;

LMC5:

ethylbenzene 1.1%; xylene 5.4%;

LMC7:

ethylbenzene 0.5%; xylene 1.9%;

Q900:

ethylbenzene 2.2%; toluene 1.6%; xylene 32.2%;

Q905:

ethylbenzene 0.8%; 1,2,4-trimethylbenzene 2.6%; xylene 24%;

Q910:

ethylbenzene 2.2%; xylene 20.4%;

Q915:

ethylbenzene 0.8%; 1,2,4-trimethylbenzene 3%; xylene 23.6%;

Q920:

ethylbenzene 2.3%; xylene 24%;

Q925:

ethylbenzene 2.1%; 1,2,4-trimethylbenzene 2%; xylene 31.6%;

Q935:

ethylbenzene 1.8%; 1,2,4-trimethylbenzene 3.3%; xylene 30.7%;

Q940:

ethylbenzene 2.1%; 1,2,4-trimethylbenzene 1.7%; toluene 1.5%;
xylene 31.5%; aluminum 4.6%;

Q945:

ethylbenzene 1.3%; 1,2,4-trimethylbenzene 3.6%; toluene 1.3%;
xylene 29.3%; aluminum 1.4%;

Q950:

ethylbenzene 1.4%; 1,2,4-trimethylbenzene 3.9%; xylene 29.4%;
aluminum 2.3%;

Q955:

ethylbenzene 1.7%; 1,2,4-trimethylbenzene 2.2%; xylene 32.5%;
copper compound 1%;

Q960:

ethylbenzene 1.8%; 1,2,4-trimethylbenzene 2.6%; xylene 31.6%;
aluminum 2.6%;

Safety data sheet

LB Bases & Colors without Lead

Revision date : 2007/11/13
Version: 1.1

Page: 16/16
(30274068/CDU_GEN_US/EN)

Q965:
ethylbenzene 1.9%; 1,2,4-trimethylbenzene 2.3%; xylene 30.5%;
copper compound 1.3%;

Q970:
ethylbenzene 1.7%; 1,2,4-trimethylbenzene 1.6%; xylene 32.9%;

Q975:
ethylbenzene 2%; 1,2,4-trimethylbenzene 1.6%; xylene 33.6%;
copper compound 1%;

Q980:
ethylbenzene 1.8%; 1,2,4-trimethylbenzene 2.3%; xylene 31.8%;
aluminum 2.2%;

Q990:
ethylbenzene 1.5%; 1,2,4-trimethylbenzene 1.7%; xylene 26.2%;
bismuth vanadium oxide 4.2%;

Q995:
ethylbenzene 2.6%; xylene 32.8%; bismuth vanadium oxide 2.5%;

California Proposition 65 information:
WARNING: This product contains a chemical(s) known to the State of
California to cause cancer and birth defects or other reproductive
harm.

16. OTHER INFORMATION

Recommended use: FOR INDUSTRIAL USE ONLY.

IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION FURNISHED BY BASF HEREUNDER ARE GIVEN GRATIS AND BASF ASSUMES NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED. ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK.



The Chemical Company

Safety data sheet

LR12 LIMCO MEDIUM REDUCER

Revision date : 2009/07/09
Version: 1.0

Page: 1/9
(30090866/CDU_GEN_US/EN)

1. Substance/preparation and company identification

Company
BASF CORPORATION
100 Campus Drive
Florham Park, NJ 07932

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: 1-800-832-HELP

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical name	CAS Number	Content (weight%)
toluene OSHA CLV 300 ppm; TWA 200 ppm; max. conc. 500 ppm ACGIH TWA 20 ppm	108-88-3	35 - 45
xylene OSHA PEL 100 ppm 435 mg/m ³ ACGIH STEL 150 ppm; TWA 100 ppm	1330-20-7	30 - 40
ethyl 3-ethoxypropionate PEL/TLV not established	763-69-9	5 - 15
ethylbenzene OSHA PEL 100 ppm 435 mg/m ³ ACGIH STEL 125 ppm; TWA 100 ppm	100-41-4	5 - 15

3. HAZARD IDENTIFICATION

HMIS III RATING

Health: 2⁺ Flammability: 3 Physical hazard: 0

HMIS uses a numbering scale ranging from 0 to 4 to indicate the degree of hazard. A value of zero means that the substance possesses essentially no hazard; a rating of four indicates high hazard.

EMERGENCY OVERVIEW

WARNING

FLAMMABLE LIQUID
HARMFUL IF INHALED
CAN CAUSE CENTRAL NERVOUS SYSTEM DAMAGE
CAN CAUSE LIVER DAMAGE
CAN CAUSE KIDNEY DAMAGE
MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION
CONTAINS A MATERIAL WHICH HAS BEEN IDENTIFIED AS A SUSPECT CANCER

Safety data sheet

LR12 LIMCO MEDIUM REDUCER

Revision date : 2009/07/09
Version: 1.0

Page: 2/9
(30090866/CDU_GEN_US/EN)

HAZARD.
MAY CAUSE PULMONARY EDEMA
INGESTION MAY CAUSE GASTRIC DISTURBANCES

POTENTIAL HEALTH EFFECTS

Primary routes of exposure:

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.
Solvents are absorbed through the skin.

Acute toxicity:

Inhalation may cause CNS depression, blurred vision, dizziness and drowsiness.
Overexposure may cause nausea and vomiting.
Inhalation causes headache and nausea.
Vapors have a suffocating effect.
Intentional misuse by deliberately concentrating and inhaling this product may be harmful or fatal.

Information on: ethyl 3-ethoxy propionate

Rats exposed to ethyl-3-ethoxy propionate by inhalation exhibited minor CNS effects.

Information on: ethyl benzene

Vapors are readily absorbed through the lungs. Inhalation of ethylbenzene vapors causes drowsiness, narcosis, headaches, cramps, and tightness of the chest. Severe overexposure can cause death due to respiratory center paralysis. If aspiration occurs, chemical pneumonitis or pulmonary edema may result. Ingestion may result in kidney or liver damage. Ethyl benzene is absorbed through the skin at a low rate.

Information on: toluene

Inhalation may be irritating and result in fatigue, headaches, CNS effects and narcosis. Severe inhalation overexposures may cause death by paralysis of the respiratory tract. Aspiration of toluene into the lungs can cause chemical pneumonitis which can be fatal.

Information on: xylene

Aspiration of xylene may result in chemical pneumonitis, pulmonary edema and hemorrhage. Ingestion and skin absorption may lead to CNS depression, symptoms may include nausea, dizziness and blurred vision.

Irritation:

Skin contact may result in irritation, defatting and dermatitis. Vapors cause irritation to the respiratory tract and the eyes. Prolonged inhalation of product vapor can result in irritation of the mucous membranes.

Information on: ethyl benzene

Ethylbenzene is extremely irritating to the eyes, skin and upper respiratory tract. Eye contact may result in conjunctivitis and corneal injury.

Repeated dose toxicity:

Information on: ethyl 3-ethoxy propionate

Safety data sheet

LR12 LIMCO MEDIUM REDUCER

Revision date : 2009/07/09
Version: 1.0

Page: 3/9
(30090866/CDU_GEN_US/EN)

In teratology studies, pregnant rats exposed by inhalation exhibited slight fetotoxicity at the maternally toxic concentration of 1000 ppm.

Information on: ethyl benzene

Animal studies indicate that chronic overexposure to ethylbenzene may cause liver and kidney injury. Increased liver and kidney weight were found in rats exposed to 400 ppm for 186 days. Animal studies indicate that the vapors may be embryotoxic. Prolonged skin contact will cause edema and blistering. In NTP 2-year inhalation studies, clear evidence of carcinogenicity of ethylbenzene in male rats was noted based on increased incidences of kidney neoplasms. Incidences of testicular adenoma were also increased. In female rats, male mice and female mice there was some evidence of carcinogenicity, based on kidney adenoma, lung neoplasms and liver neoplasms, respectively. The International Agency for Research on Cancer (IARC) has classified ethylbenzene in Category 2B, sufficient evidence of carcinogenicity in animals.

Information on: toluene

Chronic overexposure to toluene may result in liver and kidney damage. Animal studies indicate that toluene is embryotoxic and teratogenic when administered at high doses.

Information on: xylene

The chronic effects of overexposure to xylene include possible liver and kidney damage. A mixture of o, m, and p-xylenes was teratogenic and embryo toxic to mice by the oral route; however, these effects were accompanied by maternal toxicity. Rats exposed to 1000 mg/m³ by inhalation exhibited no teratogenic effects; however, minor skeletal abnormalities occurred.

4. FIRST-AID MEASURES

General advice:

Remove contaminated clothing.
Contact the local poison control center or call BASF Emergency Response at 1-800-832-HELP (4357).

If inhaled:

Keep patient calm, remove to fresh air.
If breathing difficulties develop, aid in breathing and seek immediate medical attention.

If on skin:

Wash affected areas with water for at least 15 minutes.
If irritation develops, seek medical attention.

If in eyes:

Flush with copious amounts of water for at least 15 minutes.
Hold eyelids open to facilitate rinsing.
Seek medical attention.

If swallowed:

Rinse mouth and then drink plenty of water.
Do not induce vomiting due to aspiration hazard.
Never induce vomiting or give anything by mouth if the victim is

Safety data sheet

LR12 LIMCO MEDIUM REDUCER

Revision date : 2009/07/09
Version: 1.0

Page: 4/9
(30090866/CDU GEN US/EN)

unconscious or having convulsions.
Immediate medical attention is required.
Ingestion may cause irritation of the gastrointestinal tract.
Aspiration may result in chemical pneumonitis, which may be fatal.

5. FIRE FIGHTING MEASURES

Flash point: 55 °F (12.8 °C) +/- 3 °F Setaflash Closed Cup
(measured)

Lower explosion limit: 1.0 VOL%

Upper explosion limit: 7.0 VOL%

Suitable extinguishing media:

Dry extinguishing media

Carbon dioxide

Foam

Unsuitable extinguishing media for safety reasons:

Water spray

Hazards during firefighting:

Vapors and/or decomposition products are irritants and/or toxic.

If product is heated above decomposition temperatures, acrid smoke and fumes will be released.

Protective equipment for firefighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

Vapors are heavier than air and may accumulate in low areas and travel a considerable distance up to the source of ignition. Flash fire may occur.

Remove product from areas of fire or otherwise cool sealed containers with water in order to avoid pressure build-up due to heat.

Do not flood burning material with water due to potential spreading of fire.

Contain contaminated water/firefighting water.

Run-off water from fire may cause pollution.

Notify proper authorities.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions:

Extinguish sources of ignition nearby and downwind.

Wear suitable personal protective clothing and equipment.

Ensure adequate ventilation.

Avoid prolonged inhalation.

Avoid contact with skin and eyes.

Use antistatic tools.

Environmental precautions:

Do not discharge into drains/surface waters/groundwater.

A spill of or in excess of the reportable quantity requires notification to state, local and national emergency authorities.

Safety data sheet

LR12 LIMCO MEDIUM REDUCER

Revision date : 2009/07/09
Version: 1.0

Page: 5/9
(30090866/CDU_GEN_US/EN)

Acutely toxic for aquatic organisms.

Cleanup:
Dike spillage.
Place into appropriately labeled waste containers.
Spills should be contained, solidified, and placed in suitable containers for disposal.

7. HANDLING AND STORAGE

HANDLING

General advice:
Ensure adequate ventilation.
Do not puncture, drop or slide containers.
Use static lines when mixing and transferring material.
Handle and open container with care.
Avoid contact with the skin, eyes and clothing.
WARNING: Empty containers may still contain hazardous residue.
Do not apply to hot surfaces.
Proper ventilation and respiratory protection is required when sanding, flame cutting, welding or brazing coated surfaces.

Protection against fire and explosion:
Use antistatic tools.
Exhaust fans should be explosion proof.
Provide adequate ventilation to remove solvent vapors from lower levels or work areas and to prevent solvent contact with ignition sources.
Sealed containers should be protected against heat as this results in pressure build-up.
Risk of explosion if heated under confinement.
Avoid all sources of ignition: heat, sparks, or open flame.

STORAGE

General advice:
Keep container tightly closed.
Protect from direct sunlight.
Protect from temperatures above 49C/ 120F.
Consult local fire marshal for storage requirements.

Storage incompatibility:
General: Segregate from incompatible substances.
Segregate from oxidizing agents.
Segregate from strong bases.
Segregate from strong acids.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

COMPONENTS WITH WORKPLACE CONTROL PARAMETERS
See section 2.

ADVICE ON SYSTEM DESIGN
Provide local exhaust ventilation to maintain recommended P.E.L.
General mechanical ventilation should comply with OSHA 1910.94.

Safety data sheet

LR12 LIMCO MEDIUM REDUCER

Revision date : 2009/07/09
Version: 1.0

Page: 6/9
(30090866/CDU_GEN_US/EN)

PERSONAL PROTECTIVE EQUIPMENT

Respiratory protection:

Wear respiratory protection if ventilation is inadequate.
Wear NIOSH-certified (or equivalent) organic vapor respirator.
Particulate filters should be added during spray operations.
Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination.
Observe OSHA regulations for respirator use (29 CFR 1910.134).

Hand protection:

Use appropriate chemically resistant gloves as determined by an evaluation of glove performance characteristics and the hazards and potential hazards identified, including but not limited to butyl, natural and synthetic rubber, nitrile, or neoprene.

Eye protection:

Tightly fitting safety goggles (chemical goggles).
Wear face shield if splashing hazard exists.

Body protection:

Body protection must be chosen based on activity level and exposure.

General safety and hygiene measures:

Work place should be equipped with a shower and eye wash.
Contact lenses should not be worn.
Remove contaminated clothing.
Contaminated equipment or clothing should be cleaned after each use or disposed of.
Hands and/or face should be washed before breaks and at the end of the shift.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form: liquid
Odour: aromatic
Colour: clear
Boiling range: 230 - 338 °F / 110.0 - 170.0 °C
Vapour pressure: 12.70 mmHg (20 °C)
Weight per gallon: 7.31 lb/gal CALC
Vapour density: heavier than air
Solids content: approx. 0 %
% volatiles: approx. 100.0 VOL%
Total VOC: 876 g/L / 7.3 lb/gal
VOC (minus water and exempt solvent): 876 g/L / 7.3 lb/gal
Weight of VOC (per volume of material): 876 g/L / 7.3 lb/gal

10. STABILITY AND REACTIVITY

Conditions to avoid:

Avoid all sources of ignition: heat, sparks or open flames.
Avoid electrostatic discharge.

Substances to avoid:

Safety data sheet

LR12 LIMCO MEDIUM REDUCER

Revision date : 2009/07/09
Version: 1.0

Page: 7/9
(30090866/CDU_GEN_US/EN)

Strong bases
Strong oxidizing agents
Strong acids

Hazardous reactions:
This product is chemically stable.

Decomposition products:
Carbon monoxide
Carbon dioxide

11. TOXICOLOGICAL INFORMATION

No data available.

12. ECOLOGICAL INFORMATION

No data available.

13. DISPOSAL CONSIDERATIONS

Waste disposal of substances:
Dispose of in accordance with national, state and local regulations.
The use and processing of this product, or addition of other constituents, may cause it to be considered a hazardous waste. It is the waste generators responsibility to determine if a particular waste is hazardous under RCRA.
Do not discharge into drains/surface waters/groundwater.
Incinerate or dispose of in a RCRA licensed facility.
Do not incinerate closed containers.

Contaminated packaging:
WARNING: Empty containers may still contain hazardous residue.
Dispose of in accordance with national, state and local regulations.

14. TRANSPORT INFORMATION

Land transport
USDOT

Proper shipping name: Paint Related Material
Hazard class: 3
ID-number: UN 1263
Packing group: II

Sea transport
IMDG

Proper shipping name: Paint Related Material
Hazard class: 3
ID-number: UN 1263
Packing group: II

Safety data sheet

LR12 LIMCO MEDIUM REDUCER

Revision date : 2009/07/09
Version: 1.0

Page: 8/9
(30090866/CDU_GEN_US/EN)

Air transport
IATA/ICAO

Proper shipping name: Paint Related Material
Hazard class: 3
ID-number: UN 1263
Packing group: II

15. REGULATORY INFORMATION

FEDERAL REGULATIONS

TSCA, US released / listed

SARA 313:

CAS number	Weight%	Chemical name
108-88-3	42.2	toluene
1330-20-7	37.8	xylene
100-41-4	9.5	ethylbenzene

STATE REGULATIONS

State RTK:

CAS Number	Chemical name
108-88-3	toluene
1330-20-7	xylene
763-69-9	ethyl 3-ethoxypropionate
100-41-4	ethylbenzene
64365-23-7	Siloxanes and Silicones, di-Me, hydroxy-terminated, ethoxyla

California Proposition 65 information:

WARNING: This product contains a chemical(s) known to the State of California to cause cancer and birth defects or other reproductive harm.

16. OTHER INFORMATION

Recommended use: FOR INDUSTRIAL USE ONLY.

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Safety data sheet

LR12 LIMCO MEDIUM REDUCER

Revision date : 2009/07/09
Version: 1.0

Page: 9/9
(30090866/CDU_GEN_US/EN)

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Page : 1

Original Date: 12/19/2001

Revision Date: 12/19/2001

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 (800) 832-HELP (BASF Hotline)

BOTH NUMBERS ARE AVAILABLE DAYS, NIGHTS, WEEKENDS, & HOLIDAYS.

SECTION 1 - PRODUCT INFORMATION

LH810 Normal Primer Hardener

Product ID: NLR LH810Z

Common Chemical Name:

Paint Related Material

Synonyms:

NONE

Molecular Formula:

Chemical Family: Paint

Molecular Wt.: NOT APPLICABLE

SECTION 2 - INGREDIENTS

Chemical Name:	CAS	Amount
HEXAMETHYLENE DIISOCYANATE POLYIS() OCYANATE PEL/TLV NOT ESTABLISHED	28182-81-2	30.0 - 40.0 %
n-BUTYL ACETATE ACGIH TLV STEL TWA OSHA PEL TWA	123-86-4 200 PPM 150 PPM 150 PPM	15.0 - 25.0 %
ISOPHORONE DIISOCYANATE POLYISOCY() ANATE PEL/TLV NOT ESTABLISHED	53880-05-0	1.0 - 10.0 %
ETHYL ACETATE ACGIH TLV TWA OSHA PEL TWA	141-78-6 400 PPM 400 PPM	15.0 - 25.0 %
PROPYLENE GLYCOL METHYL ETHER ACE() TATE PEL/TLV NOT ESTABLISHED	108-65-6	1.0 - 10.0 %
METHYL AMYL KETONE ACGIH TLV TWA OSHA PEL TWA	110-43-0 50 PPM 100 PPM	1.0 - 5.0 %
TOLUENE ACGIH TLV SKIN	108-88-3	10.0 - 20.0 %

SECTION 2 - INGREDIENTS (cont)

Chemical Name:	CAS	Amount
	TWA 50	PPM
OSHA PEL	CEIL 300	PPM
	STEL 500	PPM
	TWA 200	PPM

SECTION 3 - PHYSICAL PROPERTIES

Color:	Clear				
Form/Appearance:	Liquid				
Odor:	Ester				
	Typical	Low/High	U.O.M.		
Specific Gravity:	0.97				
Bulk Density:	8.13		LB/GAL		
pH:	NOT AVAILABLE				
	Typical	Low/High	Deg.	@	Pressure
Boiling Pt:	171	- 305	F	1	ATMOSPHERES
Freezing Pt:	NOT AVAILABLE				
Decomp. Temp:	NOT AVAILABLE				
Vapor Pressure:	46.75	MM HG	X	20	DEG. C XX
Vapor Density (Air = 1):	HEAVIER THAN AIR				
Solids Percent:	38				
Volatile by Vol. %:	69				
Other Physical Properties:					

TOTAL VOC: 5.1 LB/GL 607 GM/LTR VOC (MINUS
WATER AND EXEMPT SOLVENT): 5.1 LB/GL 607 GM/LTR
WT. OF VOC PER VOL. OF MATL: 5.1 LB/GL 607 GM/LTR

SECTION 4 - FIRE AND EXPLOSION DATA

	Typical	Low/High	Deg.	Method
Flash Point:	36	33 - 39	F	SETA CLOSED CUP
Autoignition:	NOT AVAILABLE			
Flam. Limits:	1.11-	10.7	%	

Extinguishing Media:

Use foam, CO2 or dry chemical extinguishing media.

Fire Fighting Procedures:

Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool containers to prevent pressure build-up due to extreme heat. Run-off water from fire may be contaminated; contain if possible. Notify authorities.

Unusual Hazards:

Keep container tightly closed. Avoid heat, open flames, sparks, static electricity and electrical equipment. Closed containers may explode to extreme heat. Do not apply on hot surfaces. Product may emit flammable vapors which when mixed with air may burn or explode.

SECTION 4 - FIRE AND EXPLOSION DATA (cont)

Vapors are heavier than air, and may collect in low areas or travel to ignition sources. During a fire, irritating and toxic gases may be generated by thermal decomposition or combustion.

SECTION 5 - HEALTH EFFECTS

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute Overexposure Effects:

The primary route of entry when using paint and paint related products is considered to be inhalation. Anesthetic. Irritation of the respiratory tract or acute nervous system depression.

Overexposure may result in headaches and nausea possibly followed by loss of consciousness. Ingestion: Gastrointestinal irritation including vomiting can occur. Aspiration of the material into the lungs may result in chemical pneumonitis, which can be fatal.

Butyl acetate vapors are irritating to the eyes and respiratory tract. Prolonged or repeated skin contact with butyl acetate may result in dryness or dermatitis.

Contact with eyes, skin, respiratory tract, or mucous membranes will cause irritation.

Inhalation of butyl acetate vapors may result in headache, dizziness, nausea, irritation of the respiratory tract, and CNS depression.

Prolonged inhalation exposures have been known to produce upper respiratory tract irritation and acute transient signs of reduced activity at concentrations at 1500 ppm and above in rats, with no cumulative neurotoxic effects. Overexposure may cause irritation of the eyes, nose and throat.

Ethyl acetate vapors are irritating to the eyes, respiratory tract, and mucous membranes. Acute overexposure to ethyl acetate vapors may result in headache, nausea, vomiting or narcosis.

Inhalation of isocyanate vapors may cause irritation of the mucous membranes of the nose and throat or trachea, breathlessness, chest discomfort, difficult breathing and reduced pulmonary function.

Airborne overexposure well above recommended limits (5 ppb) may result additionally in eye irritation, headache, chemical bronchitis, asthma-like findings or pulmonary edema. Isocyanates have also been reported to cause hypersensitivity pneumonitis, which is characterized by flu-like symptoms, the onset of which may be delayed.

Gastrointestinal symptoms include nausea, vomiting and abdominal pain.

Inhalation may be irritating and result in fatigue, headaches, CNS effects and narcosis. Severe inhalation overexposures may cause death by paralysis of the respiratory tract. Aspiration of toluene into the lungs can cause chemical pneumonitis which can be fatal.

In a short-term inhalation study, rats and mice exposed to 0, 300, 1000 or 3000 ppm did not exhibit any adverse effects.

Inhalation of 2-heptanone (methyl amyl ketone) may lead to upper respiratory tract irritation and central nervous system effects like

SECTION 5 - HEALTH EFFECTS (cont)

Chronic Overexposure Effects:

The primary route of exposure when using paint or paint related products is considered to be inhalation. May cause allergic reaction involving respiratory system and skin; effects may be permanent. Individuals with lung or breathing problems or prior reaction to isocyanates must not be exposed to this product. Some reports have associated repeated, prolonged overexposure to solvent with permanent central nervous system changes. Misuse by concentrating and inhaling the contents may be harmful or fatal.

In a teratogenicity study, pregnant rabbits were exposed to n-butyl acetate vapors at 0 or 1500 ppm from day 1 to day 19 of gestation; pregnant rats were exposed at the same concentrations from day 1 to day 16 of gestation. Body weight changes were observed in the rats but not the rabbits. Reproductive performance was not affected. Rabbit fetus size was not affected by exposure, but fetal size in all exposed groups of rats was reduced, suggesting embryotoxicity.

Chronic overexposure to ethyl acetate may lead to liver, kidney, lung damage, and possible blood disorders, such as anemia.

Acute or chronic overexposure to isocyanates may cause sensitization in some individuals, resulting in allergic symptoms of the lower respiratory tract (asthma-like), including wheezing, shortness of breath and difficulty breathing. Subsequent reactions may occur at or substantially below the PEL and TLV. Asthma caused by isocyanates may persist in some individuals after removal from exposure. Some isocyanate sensitized persons may experience asthma reactions upon exposure to non-isocyanate containing dusts or irritants. Cross sensitization to different isocyanates may occur.

Chronic overexposure to toluene may result in liver and kidney damage. Animal studies indicate that toluene is embryotoxic and teratogenic when administered at high doses.

Repeated inhalation exposures to 2-heptanone (methyl amyl ketone) have been known to produce neurological effects in experimental animals at 1000 ppm. Repeated oral exposures in rats have been known to produce liver and kidney effects at 500 mg/kg/day.

First Aid Procedures - Skin:

Wash affected areas with soap and water. Remove and launder contaminated clothing before reuse. If irritation develops, get medical attention.

First Aid Procedures - Eyes:

Flush with copious amounts of water for at least 15 minutes. Hold eyelids open to facilitate rinsing. Seek medical assistance immediately.

First Aid Procedures - Ingestion:

If swallowed, dilute with water. DO NOT INDUCE VOMITING DUE TO ASPIRATION HAZARD. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. Get immediate medical attention.

First Aid Procedures - Inhalation:

Remove to fresh air. Restore breathing. Keep warm and quiet. Notify a physician.

First Aid Procedures - Notes to Physicians:

SECTION 5 - HEALTH EFFECTS (cont)

Response at 1-800-832-HELP (4357).

First Aid Procedures - Aggravated Medical Conditions:

Individuals who are sensitized to isocyanates and those with pre-existing lung diseases or conditions, including non-specific bronchial hyperreactivity or asthma, must avoid all exposure to isocyanates.

First Aid Procedures - Special Precautions:

None

SECTION 6 - REACTIVITY DATA

Stability Data:

Stable

Incompatibility:

Strong acids, alkalies, and oxidizers.

Conditions/Hazards to Avoid:

Heat, sparks and open flames, electrical and static discharge.

Hazardous Decomposition/Polymerization:

Hazardous polymerization does not occur. Material is stable under normal conditions. Products of combustion are unknown, other than CO₂, carbon smoke and possible CO.

Corrosive Properties:

Not corrosive.

Oxidizer Properties:

Not an oxidizer

Other Reactivity Data:

None known.

SECTION 7 - PERSONAL PROTECTION

Clothing:

Solvents are absorbed through the skin. To minimize dermal contact, wear rubber gloves. Remove contaminated clothing to prevent prolonged skin contact.

Eyes:

Safety glasses with side-shields or chemical goggles.

Respiration:

Wear a respirator that is recommended and approved for use in an isocyanate containing environment. Consider type of application and environmental concentrations to maintain actual exposures below established TLV/PEL's. Use only those respirators approved for use with isocyanates. If concentrations are high or unknown use a positive pressure air supplied respirator (TC19C NIOSH/MSHA). Observe OSHA regulations for respirator use (29CFR1910.134).

Ventilation:

Use adequate ventilation in volume and pattern to keep TWA's and STEL's (Section 2) below recommended levels, and flammable limits in air (Section 4) below the level necessary to produce explosion or fire. General mechanical ventilation should comply with OSHA 1910.94.

Explosion Proofing:

See Section 4 - Fire and Explosion Data.

Other Personal Protection Data:

None applicable to this product.

SECTION 8 - SPILL-LEAK/ENVIRONMENTAL

General:

Ventilate area. Eliminate all sources of ignition (pilot lights, electric motors, sparks, open flames, etc.). Wear appropriate protective equipment. Avoid prolonged breathing of vapors, avoid eye and dermal contact. Confine spills. Avoid discharge into sewers and waterways. Collect with absorbent material. Pour neutralizing solution over spill area and allow to react for at least 10 minutes (use a mixture of 90% water, 3-8% concentrated ammonia, and 2-7% detergent. Clean up material with spark-proof tools. Place in appropriately labeled waste container and add additional neutralizing solution. Remove container to a safe place, cover loosely to allow evolved carbon dioxide to escape. Allow to stand for 24 to 48 hours before sealing container and disposing.

Waste Disposal:

Dispose of in accordance with federal, state and local regulations. Incinerate or landfill in RCRA permitted facility by a licensed contractor. Do not incinerate closed containers.

Container Disposal:

Unused material and empty containers must be disposed of in accordance with local, state and federal regulations.

Other Spill/Leak Procedures:

No other spill procedures necessary.

SECTION 9 - STORAGE AND HANDLING

General:

Do not store over 120 F. When storing hazardous material, consult fire marshal for local storage requirements. Use static lines when mixing and transferring material. Do not allow material to free fall for more than five (5) inches. Do not cut, puncture, drop or slide containers. Container is hazardous when open or empty. It may contain explosive vapor or dangerous residue.

Other Storage and Handling Data:

"FOR INDUSTRIAL USE ONLY". Do not sand, flame cut, weld or braze on coated metal without a NIOSH/MSHA approved respirator and appropriate ventilation.

SECTION 10 - REGULATORY INFORMATION

TSCA Inventory Status

Listed on Inventory: YES

SARA - 313 Listed Chemicals:

CAS: 108-88-3 AMOUNT: 15.0 %
NAME: TOLUENE

RCRA Haz. Waste No .:

Hazard Ratings:

Health: Fire: Reactivity: Special:
HMIS 3* 3 1 NA

WARNING: This product contains a chemical(s) known to the state of California to cause cancer and birth defects or other reproductive harm.

SECTION 11 - TRANSPORTATION INFORMATION

DOT Proper Shipping Name:

SEE BELOW

DOT Technical Name:

SEE BELOW

DOT Primary Hazard Class:

SEE BELOW

DOT Secondary Hazard Class:

DOT Label Required:

SEE BELOW

DOT Placard Required:

SEE BELOW

DOT Poison Constituent:

BASF Commodity Codes:

UN/NA Code:

E/R Guide:

Bill of Lading Description:

PAINT RELATED MATERIAL, 3, UN1263, PGII.

IF > 6591 LBS, ADD: RQ, (TOLUENE).

IF > 22980 LBS, ADD: RQ, (ETHYL ACETATE).

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Material Safety Data Sheet

Page : 1

Original Date: 11/21/2000

Revision Date: 11/21/2000

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BOTH NUMBERS ARE AVAILABLE DAYS, NIGHTS, WEEKENDS, & HOLIDAYS.

SECTION 1 - PRODUCT INFORMATION

LH310 Normal Urethane Hardener

Product ID: NLR LH310Z

Common Chemical Name:

Paint Related Material

Synonyms:

NONE

Molecular Formula:

Chemical Family: Paint

Molecular Wt.: NOT APPLICABLE

SECTION 2 - INGREDIENTS

Chemical Name:	CAS	Amount	
METHYL AMYL KETONE	110-43-0	10.0 - 20.0	%
ACGIH TLV	TWA 50		PPM
OSHA PEL	TWA 100		PPM
HEXAMETHYLENE DIISOCYANATE MONOME()	822-06-0	< 1.0	%
R			
ACGIH TLV	TWA 0.005		PPM
BASF 8HR, EXP. LIMIT	TWA 0.005		PPM
HEXAMETHYLENE DIISOCYANATE POLYIS()	28182-81-2	80.0 - 90.0	%
OCYANATE			
PEL/TLV NOT ESTABLISHED			

SECTION 3 - PHYSICAL PROPERTIES

Color:	Clear				
Form/Appearance:	Liquid				
Odor:	Ketone				
	Typical	Low/High	U.O.M.		
Specific Gravity:	1.1				
Bulk Density:	9.19		LB/GAL		
pH:	NOT AVAILABLE				
	Typical	Low/High	Deg.	@	Pressure
Boiling Pt:	304	- 306	F	1	ATMOSPHERES

SECTION 3 - PHYSICAL PROPERTIES (cont)

	Typical	Low/High	Deg.	@	Pressure
Freezing Pt:	NOT AVAILABLE				
Decomp. Tmp:	NOT AVAILABLE				
Vapor Pressure:		2.14	MM HG	X	20 DEG. C XX
Vapor Density (Air = 1):	HEAVIER THAN AIR				
Solids Percent:	86				
Volatile by Vol. %:	19				
Other Physical Properties:	TOTAL VOC: 1.3 LB/GL 154 GM/LTR VOC (MINUS WATER AND EXEMPT SOLVENT): 1.3 LB/GL 154 GM/LTR WT. OF VOC PER VOL. OF MATL: 1.3 LB/GL 154 GM/LTR				

SECTION 4 - FIRE AND EXPLOSION DATA

	Typical	Low/High	Deg.	Method
Flash Point:	131	129 - 134		F SETA CLOSED CUP
Autoignition:	NOT AVAILABLE			
Flam. Limits:		1.11- 7.9	%	

Extinguishing Media:

Use foam, CO2 or dry chemical extinguishing media.

Fire Fighting Procedures:

Full protective equipment including self-contained breathing apparatus should be used. Water spray may be ineffective. If water is used, fog nozzles are preferable. Water may be used to cool containers to prevent pressure build-up due to extreme heat. Run-off water from fire may be contaminated; contain if possible. Notify authorities.

Unusual Hazards:

Keep container tightly closed. Avoid heat, open flames, sparks, static electricity and electrical equipment. Closed containers may explode to extreme heat. Do not apply on hot surfaces. Product may emit flammable vapors which when mixed with air may burn or explode. Vapors are heavier than air, and may collect in low areas or travel to ignition sources. During a fire, irritating and toxic gases may be generated by thermal decomposition or combustion.

SECTION 5 - HEALTH EFFECTS

Routes of entry for solids and liquids include eye and skin contact, ingestion and inhalation. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquified gases.

Acute Overexposure Effects:

The primary route of entry when using paint and paint related products is considered to be inhalation. Anesthetic. Irritation of the respiratory tract or acute nervous system depression. Overexposure may result in headaches and nausea possibly followed by loss of consciousness. Ingestion: Gastrointestinal irritation including vomiting can occur. Aspiration of the material into the lungs may result in chemical pneumonitis, which can be fatal. Contact with eyes, skin, respiratory tract, or mucous membranes will

SECTION 5 - HEALTH EFFECTS (cont)

cause irritation.

Inhalation of isocyanate vapors may cause irritation of the mucous membranes of the nose and throat or trachea, breathlessness, chest discomfort, difficult breathing and reduced pulmonary function. Airborne overexposure well above recommended limits (5 ppb) may result additionally in eye irritation, headache, chemical bronchitis, asthma-like findings or pulmonary edema. Isocyanates have also been reported to cause hypersensitivity pneumonitis, which is characterized by flu-like symptoms, the onset of which may be delayed. Gastrointestinal symptoms include nausea, vomiting and abdominal pain.

Inhalation of 2-heptanone (methyl amyl ketone) may lead to upper respiratory tract irritation and central nervous system effects like headache, nausea and dizziness.

Chronic Overexposure Effects:

The primary route of exposure when using paint or paint related products is considered to be inhalation. May cause allergic reaction involving respiratory system and skin; effects may be permanent. Individuals with lung or breathing problems or prior reaction to isocyanates must not be exposed to this product. Some reports have associated repeated, prolonged overexposure to solvent with permanent central nervous system changes. Misuse by concentrating and inhaling the contents may be harmful or fatal.

Acute or chronic overexposure to isocyanates may cause sensitization in some individuals, resulting in allergic symptoms of the lower respiratory tract (asthma-like), including wheezing, shortness of breath and difficulty breathing. Subsequent reactions may occur at or substantially below the PEL and TLV. Asthma caused by isocyanates may persist in some individuals after removal from exposure. Some isocyanate sensitized persons may experience asthma reactions upon exposure to non-isocyanate containing dusts or irritants. Cross sensitization to different isocyanates may occur.

Repeated inhalation exposures to 2-heptanone (methyl amyl ketone) have been known to produce neurological effects in experimental animals at 1000 ppm. Repeated oral exposures in rats have been known to produce liver and kidney effects at 500 mg/kg/day.

First Aid Procedures - Skin:

Wash affected areas with soap and water. Remove and launder contaminated clothing before reuse. If irritation develops, get medical attention.

First Aid Procedures - Eyes:

Flush with copious amounts of water for at least 15 minutes. Hold eyelids open to facilitate rinsing. Seek medical assistance immediately.

First Aid Procedures - Ingestion:

If swallowed, dilute with water. DO NOT INDUCE VOMITING DUE TO ASPIRATION HAZARD. Never give fluids or induce vomiting if the victim is unconscious or having convulsions. Get immediate medical attention.

First Aid Procedures - Inhalation:

Remove to fresh air. Restore breathing. Keep warm and quiet.

SECTION 5 - HEALTH EFFECTS (cont)

First Aid Procedures - Notes to Physicians:

Contact the local Poison Control Center or call BASF Emergency Response at 1-800-832-HELP (4357).

First Aid Procedures - Aggravated Medical Conditions:

Individuals who are sensitized to isocyanates and those with pre-existing lung diseases or conditions, including non-specific bronchial hyperreactivity or asthma, must avoid all exposure to isocyanates.

First Aid Procedures - Special Precautions:

None

SECTION 6 - REACTIVITY DATA

Stability Data:

Stable

Incompatibility:

Strong acids, alkalies, and oxidizers.

Conditions/Hazards to Avoid:

Heat, sparks and open flames, electrical and static discharge.

Hazardous Decomposition/Polymerization:

Hazardous polymerization does not occur. Material is stable under normal conditions. Products of combustion are unknown, other than CO₂, carbon smoke and possible CO.

Corrosive Properties:

Not corrosive.

Oxidizer Properties:

Not an oxidizer

Other Reactivity Data:

None known.

SECTION 7 - PERSONAL PROTECTION

Clothing:

Solvents are absorbed through the skin. To minimize dermal contact, wear rubber gloves. Remove contaminated clothing to prevent prolonged skin contact.

Eyes:

Safety glasses with side-shields or chemical goggles.

Respiration:

Wear a respirator that is recommended and approved for use in an isocyanate containing environment. Consider type of application and environmental concentrations to maintain actual exposures below established TLV/PEL's. Use only those respirators approved for use with isocyanates. If concentrations are high or unknown use a positive pressure air supplied respirator (TC19C NIOSH/MSHA). Observe OSHA regulations for respirator use (29CFR1910.134).

Ventilation:

Use adequate ventilation in volume and pattern to keep TWA's and STEL's (Section 2) below recommended levels, and flammable limits in air (Section 4) below the level necessary to produce explosion or fire. General mechanical ventilation should comply with OSHA 1910.94.

Explosion Proofing:

See Section 4 - Fire and Explosion Data.

SECTION 7 - PERSONAL PROTECTION (cont)

Other Personal Protection Data:

None applicable to this product.

SECTION 8 - SPILL-LEAK/ENVIRONMENTAL

General:

Ventilate area. Eliminate all sources of ignition (pilot lights, electric motors, sparks, open flames, etc.). Wear appropriate protective equipment. Avoid prolonged breathing of vapors, avoid eye and dermal contact. Confine spills. Avoid discharge into sewers and waterways. Collect with absorbent material. Pour neutralizing solution over spill area and allow to react for at least 10 minutes (use a mixture of 90% water, 3-8% concentrated ammonia, and 2-7% detergent. Clean up material with spark-proof tools. Place in appropriately labeled waste container and add additional neutralizing solution. Remove container to a safe place, cover loosely to allow evolved carbon dioxide to escape. Allow to stand for 24 to 48 hours before sealing container and disposing.

Waste Disposal:

Dispose of in accordance with federal, state and local regulations. Incinerate or landfill in RCRA permitted facility by a licensed contractor. Do not incinerate closed containers.

Container Disposal:

Unused material and empty containers must be disposed of in accordance with local, state and federal regulations.

Other Spill/Leak Procedures:

No other spill procedures necessary.

SECTION 9 - STORAGE AND HANDLING

General:

Do not store over 120 F. When storing hazardous material, consult fire marshal for local storage requirements. Use static lines when mixing and transferring material. Do not allow material to free fall for more than five (5) inches. Do not cut, puncture, drop or slide containers. Container is hazardous when open or empty. It may contain explosive vapor or dangerous residue.

Other Storage and Handling Data:

"FOR INDUSTRIAL USE ONLY". Do not sand, flame cut, weld or braze on coated metal without a NIOSH/MSHA approved respirator and appropriate ventilation.

SECTION 10 - REGULATORY INFORMATION

TSCA Inventory Status

Listed on Inventory: YES

RCRA Haz. Waste No .:

Hazard Ratings:

	Health:	Fire:	Reactivity:	Special:
HMIS	3*	2	1	NA

SECTION 11 - TRANSPORTATION INFORMATION

DOT Proper Shipping Name:

SEE BELOW

DOT Technical Name:

SEE BELOW

DOT Primary Hazard Class:

SEE BELOW

DOT Secondary Hazard Class:

DOT Label Required:

SEE BELOW

DOT Placard Required:

SEE BELOW

DOT Poison Constituent:

BASF Commodity Codes:

UN/NA Code:

E/R Guide:

Bill of Lading Description:

PAINT RELATED MATERIAL, 3, UN 1263, PGIII

"IMPORTANT: WHILE THE DESCRIPTIONS, DESIGNS, DATA AND INFORMATION CONTAINED HEREIN ARE PRESENTED IN GOOD FAITH AND BELIEVED TO BE ACCURATE, IT IS PROVIDED FOR YOUR GUIDANCE ONLY. BECAUSE MANY FACTORS MAY AFFECT PROCESSING OR APPLICATION/USE, WE RECOMMEND THAT YOU MAKE TESTS TO DETERMINE THE SUITABILITY OF A PRODUCT FOR YOUR PARTICULAR PURPOSE PRIOR TO USE. NO WARRANTIES OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE. FURTHER, YOU EXPRESSLY UNDERSTAND AND AGREE THAT THE DESCRIPTIONS, DESIGNS, DATA, AND INFORMATION FURNISHED BY BASF HEREUNDER ARE GIVEN GRATIS AND BASF ASSUMES NO OBLIGATION OR LIABILITY FOR THE DESCRIPTION, DESIGNS, DATA AND INFORMATION GIVEN OR RESULTS OBTAINED, ALL SUCH BEING GIVEN AND ACCEPTED AT YOUR RISK".

END OF DATA SHEET

MATERIAL SAFETY DATA SHEET

Date Revised: 8/26/2011

Page: 1 of 7

Rage

MSDS Number: 120032

SECTION 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Material Identity

Product Name: Rage
Product Numbers: 100105 (Quart), 100106 (Gal), 100102 (3-Gal),
100107 (3-Gal cartridge) and 100108 (5-Gal)

Product Use: Lightweight Bodyfiller

Company

ITW Evercoat
a Division of Illinois Tool Works Inc.
6600 Cornell Road
Cincinnati, Ohio USA
Phone: 513-489-7600

Emergency Telephone Numbers:

CHEMTREC: 1-800-424-9300
CANUTEC: 1-613-996-6666

Prepared By: Safety Department

SECTION 2. COMPOSITION / INFORMATION ON INGREDIENTS

Ingredient(s)	CAS Number	EINECS Number	% (by weight)
Polyester Resin (Non-Hazardous)	Proprietary	Proprietary	30 – 35
Talc	14807-96-6	238-877-9	30 – 35
Styrene	100-42-5	202-851-5	15 – 20
Magnesite	546-93-0	208-915-9	5 – 10
Inert Filler	Proprietary	Proprietary	1 – 5
Titanium Dioxide	13463-67-7	236-675-5	0 – 1
Quartz (Crystalline Silica)	14808-60-7	238-878-4	0 – 1

OSHA Regulatory Status: This material is classified as hazardous under OSHA regulations.

SECTION 3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

WARNING! COMBUSTIBLE LIQUID AND VAPOR.
CAUSES EYE, SKIN, NOSE AND THROAT IRRITATION.

Potential Health Effects

Acute Effects (Short Term):

Eye: Contact with liquid or vapor may result in irritation, redness, tearing, and blurred vision.

Skin: May cause mild skin irritation. Prolonged or repeated contact may dry the skin. Symptoms may include redness, burning, drying and cracking of skin, and skin burns.

Swallowing: Ingestion of this material may cause gastrointestinal irritation, nausea, diarrhea, and vomiting. Aspiration of this material into the

MATERIAL SAFETY DATA SHEET

Date Revised: 8/26/2011

Page: 2 of 7

Rage

MSDS Number: 120032

lungs due to vomiting may produce chemical pneumonitis which can be fatal.

Inhalation: Excessive inhalation of vapors may cause nasal and respiratory irritation, acute nervous system depression, fatigue, weakness, nausea, headache, and dizziness. Symptoms usually occur at air concentrations higher than the recommended exposure limits (See Section 8).

Chronic Effects of Overexposure (Long Term):

Styrene: Excessive overexposure to styrene has been found to cause the following effects in humans and may aggravate pre-existing disorders of these organs; central nervous system effects, effects on hearing, mild effects on color vision and respiratory tract damage.

Crystalline Silica: Crystalline silica is considered to be hazardous by inhalation, and is a potential human carcinogen (IARC Group 1). The risk depends on the duration and level of exposure to dust from sanding surfaces or mist from spray applications. Crystalline silica may also produce silicosis, which is a non-cancerous lung disease.

Cancer Information: Styrene is listed as "reasonably anticipated to be a human carcinogen" in the U.S. Dept. of Health and Human Services National Toxicology Program's 12th report on carcinogens. The International Agency for Research on Cancer (IARC) has classified styrene as a group 2B carcinogen (possibly carcinogenic to humans). This classification is not based on evidence that styrene may be carcinogenic, but rather on a revised definition for Group 2B, and consideration of new data on styrene oxide (Group 2A). Titanium Dioxide is listed by IARC as possibly carcinogenic to humans (Group 2B). This listing is based on inadequate evidence of carcinogenicity in humans and sufficient evidence in experimental animals. The IARC has classified crystalline silica as a group 1 carcinogen (sufficient evidence of carcinogenicity in humans). This material may contain trace amounts of chemicals considered to be carcinogenic by OSHA, (1,3- Butadiene-IARC Group 2A).

Other Health Effects: NOTICE: Reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal.

Primary Route(s) of Entry: Inhalation, Skin contact, Eye contact, Ingestion, Skin absorption.

SECTION 4. FIRST AID MEASURES

MATERIAL SAFETY DATA SHEET

Date Revised: 8/26/2011

Page: 3 of 7

Rage

MSDS Number: 120032

- Eyes:** Flush eyes gently with water for at least 15 minutes. Seek immediate medical attention.
- Skin:** Remove contaminated clothing. Wash exposed area with soap and water. If symptoms persist, seek medical attention. Launder clothing before reuse.
- Swallowing:** Consult a physician or poison control center immediately. DO NOT INDUCE VOMITING. If individual is drowsy or unconscious, do not give anything by mouth; place individual on the left side with the head down. If possible, do not leave individual unattended. If vomiting occurs spontaneously, keep head below hips to prevent aspiration of liquid into lungs.
- Inhalation:** If symptoms develop, immediately move individual away from exposure and into fresh air. Seek immediate medical attention; keep person warm and quiet. If person is not breathing, begin artificial respiration. If breathing is difficult, oxygen may be beneficial if administered by trained personnel.

SECTION 5. FIRE FIGHTING MEASURES

Flash Point: 101 °F (38.5 °C)

Explosive Limit: Lower: 1.1% Upper: 6.1%

Autoignition Temperature: 914.0 °F (490.0 °C)

OSHA Flammability Class: Combustible Liquid – Class II

Hazardous Products of Combustion: May form: carbon dioxide, carbon monoxide, styrene oxide, and various hydrocarbons.

Fire and Explosion Hazards: Vapors are heavier than air and may travel along the ground or may be moved by ventilation and ignited by pilot lights, other flames, sparks, heaters, smoking, electric motors, static discharge, or other ignition sources at locations distant from material handling point.

Extinguishing Media: Regular foam, carbon dioxide, dry chemical.

Fire Fighting Instructions: Water may be used to keep fire-exposed containers cool until fire is out. Wear a self-contained breathing apparatus NIOSH approved with a full facepiece operated in the positive pressure demand mode with appropriate turn-out gear and chemical resistant personal protective equipment.

NFPA Rating: Health - 2, Flammability - 3, Reactivity - 2

SECTION 6. ACCIDENTAL RELEASE MEASURES

MATERIAL SAFETY DATA SHEET

Date Revised: 8/26/2011

Page: 4 of 7

Rage

MSDS Number: 120032

In Case of Spill: Eliminate all sources of ignition such as flares, flames (including pilot lights), and electrical sparks. Ventilate the area. Wear proper protective equipment (Section 8). Avoid breathing vapors. Collect with an inert absorbant and dispose of properly.

SECTION 7. HANDLING AND STORAGE

Handling: All hazard precautions given in the data sheet must be observed. Avoid contact with eyes, skin and clothing. Wash thoroughly after handling. Use only with adequate ventilation. Do not breathe sanding dust, vapors or spray mist. Do not take internally. Close container after each use. **Keep out of reach of children.**

Storage: Store material in a cool, well-ventilated area. For maximum product quality, avoid prolonged storage at temperatures above 75°F (25°C). Do not use or store near heat, sparks, or open flame. Keep container tightly closed. Avoid contact with incompatible materials.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Eye Protection: Chemical splash goggles in compliance with OSHA regulations are recommended.

Skin Protection: Protective gloves and proper clothing should be worn to prevent skin contact. Gloves should be made of neoprene or natural rubber. To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Respiratory Protection: Use a NIOSH approved respirator designed to remove particulate matter and organic solvent vapors.

Engineering Controls: Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below acceptable limits. Explosion-proof ventilation system is acceptable.

Exposure Guidelines:

<u>Hazardous Ingredients</u>	<u>CAS Number</u>	<u>OSHA PEL/TWA</u>	<u>ACGIH TLV</u>
Crystalline Silica	14808-60-7	0.1 mg/m ³ resp	0.05 mg/m ³
Inert Filler	Proprietary	5 mg/m ³	10 mg/m ³
Magnesite	546-93-0	15 mg/m ³	10 mg/m ³
Styrene	100-42-5	100 ppm	20 ppm
Talc	14807-96-6	20 mppcf	2 mg/m ³
Titanium Dioxide	13463-67-7	15 mg/m ³	10 mg/m ³

Mppcf- millions of particles per cubic foot of air N/E-Not Established

MATERIAL SAFETY DATA SHEET

Date Revised: 8/26/2011

Rage

Page: 5 of 7

MSDS Number: 120032

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Boiling Point:	293 °F/ 145 °C (Styrene)	Vapor Density:	Heavier than air.
Specific Gravity / Density:	1.20 / 9.98 lbs/gal	Percent Volatiles by weight:	15 - 20 %
Evaporation Rate:	Slower than ethyl ether.	Physical State:	Paste
Melting Point:	-23.1 °F / -30.6 °C (Styrene)	pH:	Neutral
Odor:	Sharp, aromatic odor.	Solubility:	Insoluble in water.
Vapor Pressure:	5.0 mmHg @ 68 °F / 20 °C	Appearance:	Gray Paste
Octanol/Water Partition	Unknown		
VOC (as packaged -less exempts and water):	1.48 lbs/gal or 178 g/L	VOC (as applied*- 2%by wt hardener- less exempts and water):	0.28 lbs/gal or 34 g/L
Percent Solids by weight – as packaged:	85 %	Percent Solids by weight – as applied* - 2 % by wt hardener:	97 %
VHAP Content by weight – as packaged:	17 %	VHAP Content by weight – as applied* - 2 % by weight hardener:	3.2 %

*NOTE: The applied VOC and VHAP Content is lower than the packaged VOC and VHAP Content due to a reactive diluent (styrene) that reacts and becomes non-volatile (bonded in the solid material) when the hardener is added.

SECTION 10. STABILITY AND REACTIVITY

Hazardous Polymerization: Product may undergo hazardous polymerization if exposed to extreme heat.

Hazardous Decomposition: May form: carbon dioxide, carbon monoxide, styrene oxide and various hydrocarbons.

Chemical Stability: Stable under normal handling conditions.

Incompatibility: Avoid contact in uncontrolled conditions with: peroxides, strong acids, strong oxidizing agents and polymerization catalysts.

MATERIAL SAFETY DATA SHEET

Date Revised: 8/26/2011
Rage

Page: 6 of 7
MSDS Number: 120032

SECTION 11. TOXICOLOGICAL INFORMATION

Acute Toxicity Data:

Ingredient	CAS #	LD ₅₀ Oral-Rat	LC ₅₀ Inhalation-Rat
Styrene	100-42-5	5,000 mg/kg	24 g/m ³ /4H

Carcinogenicity: See Cancer Information, Section 3.

Mutagenicity: No significant evidence found.

Teratogenicity: No significant risk of birth defects or reproductive toxicity of styrene to humans.

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity: Styrene is toxic to aquatic organisms and should not be released to sewage, draining systems or any body of water exceeding concentrations of approved limits under applicable regulations and permits.

SECTION 13. DISPOSAL CONSIDERATION

RCRA Hazardous Waste: This material as supplied, if discarded, would be regulated as a hazardous waste under RCRA (40 CFR 261). Dispose of in accordance with applicable federal, state, and local regulations.

RCRA Hazard Class: This material would be regulated as EPA Hazardous Waste Number D001 based on the characteristic of ignitability.

SECTION 14. TRANSPORT INFORMATION

DOT Description: The DOT Classification for shipping is dependant on quantity, type of packaging (a kit may include other components), or method of shipment.

SECTION 15. REGULATORY INFORMATION

US Federal Regulations

TSCA (Toxic Substances Control Act) Status

TSCA (USA) The intentional ingredients of this product are listed.

CERCLA RQ - 40 CFR 302.4(a)

Component _____ RQ (lbs.)

MATERIAL SAFETY DATA SHEET

Date Revised: 8/26/2011

Page: 7 of 7

Rage

MSDS Number: 120032

Styrene 1000

SARA Title III: Section 302- Extremely Hazardous Substances

None

SARA Title III: Section 313- Toxic Chemical List

<u>Component</u>	<u>CAS Number</u>	<u>Percentage</u>
------------------	-------------------	-------------------

Styrene	100-42-5	17 %
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EPA Hazardous Air Pollutants (HAPS) 40 CFR 63

<u>Component</u>	<u>CAS Number</u>	<u>Percentage</u>
------------------	-------------------	-------------------

Styrene	100-42-5	17 %
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International Regulations

EINECS (Europe) The intentional ingredients of this product are listed.

DSL (Canada) The intentional ingredients of this product are listed.

WHMIS Classification

Health Hazard: D2A (Other Toxic Effects)

Physical Hazard: B2 (Flammable)

State and Local Regulations

California Proposition 65:

This product contains the following chemical(s) known to the state of California to cause cancer. STYRENE OXIDE, 1,3-BUTADIENE, CRYSTALLINE SILICA.

Styrene, in the presence of air and high temperature or prolonged exposure of styrene/air mixture to sunlight, can react to form styrene oxide.

This product contains the following chemical(s) known to the state of California to cause birth defects or reproductive harm. 1,3-BUTADIENE,

SECTION 16. OTHER INFORMATION

HMIS Rating: Health – 2*, Flammability - 2, Reactivity - 2

Key- 0=Least, 1=Slight, 2=Moderate, 3=Serious, 4=Extreme, *=Chronic Effects

Other Precautions for Use: This product must be mixed with Cream Hardener prior to use. Please refer to the Material Safety Data Sheet (#100340) for catalyst before using. If product is to be sanded, the OSHA PEL/TLV of 10 mg/m³ for nuisance dust should be observed.

Additional Information may be obtained by calling the Evercoat MSDS Hotline at 1-800-729-7600.

NOTICE: The information accumulated herein is believed to be correct as of the date issued from sources, which are believed to be accurate and reliable. Since it is not possible to anticipate all circumstances of use, recipients are advised to confirm, in advance of need, that the information is current, applicable and suitable to their circumstances.

Material Safety Data Sheet

Date of issue 9 March 2012

Version 18

1. Product and company identification

Product name : Premium Wash Thinner
Code : 1501
Supplier : Grow Automotive
760 Pittsburgh Drive
Delaware, OH 43015
Emergency telephone number : (412) 434-4515 (U.S.)
(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
Technical Phone Number : 1-800-647-6050

2. Hazards identification

Emergency overview : DANGER!
 FLAMMABLE LIQUID AND VAPOR. CANNOT BE MADE NON POISONOUS. MAY BE FATAL OR CAUSE BLINDNESS IF SWALLOWED. CAUSES RESPIRATORY TRACT, EYE AND SKIN IRRITATION. MAY BE HARMFUL IF INHALED. ASPIRATION HAZARD. CAN ENTER LUNGS AND CAUSE DAMAGE. PROLONGED OR REPEATED CONTACT MAY DRY SKIN AND CAUSE IRRITATION. CONTAINS MATERIAL THAT CAN CAUSE TARGET ORGAN DAMAGE.
 Keep away from flames, such as a pilot light, and any object that sparks, such as an electric motor. Keep away from heat. Do not smoke. Do not swallow. Do not get in eyes or on skin or clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Keep container tightly closed and sealed until ready for use. Wash thoroughly after handling.

Potential acute health effects

Inhalation : May be harmful if inhaled. Irritating to respiratory system. Can irritate eyes, nose, mouth and throat.
Ingestion : May be fatal or cause blindness if swallowed. Aspiration hazard if swallowed. Can enter lungs and cause damage.
Skin : Severely irritating to the skin.
Eyes : Irritating to eyes.

Over-exposure signs/symptoms

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Inhalation of vapor/aerosol concentrations above the recommended exposure limits causes headaches, drowsiness and nausea and may lead to unconsciousness or death. There is some evidence that repeated exposure to organic solvent vapors in combination with constant loud noise can cause greater hearing loss than expected from exposure to noise alone.

Medical conditions aggravated by over-exposure : Pre-existing disorders involving any target organs mentioned in this MSDS as being at risk may be aggravated by over-exposure to this product.

This Material Safety Data Sheet has been prepared in accordance with Canada's Workplace Hazardous Materials Information System (WHMIS) and the OSHA Hazard Communication Standard (29 CFR 1910.1200).

See toxicological information (Section 11)

3. Composition/information on ingredients

<u>Name</u>	<u>CAS number</u>	<u>%</u>
Methyl acetate	79-20-9	30 - 60
methanol	67-56-1	10 - 30
toluene	108-88-3	10 - 30
Ligroine	8032-32-4	7 - 13
tetrahydrofuran	109-99-9	1 - 5
ethanol	64-17-5	0.1 - 1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Material Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do not induce vomiting.
- Notes to physician** : No specific treatment. Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

5. Fire-fighting measures

Flammability of the product : Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Extinguishing media

- Suitable** : Use dry chemical, CO₂, water spray (fog) or foam.
- Not suitable** : Do not use water jet.
- Special exposure hazards** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Hazardous combustion products** : Decomposition products may include the following materials:
carbon oxides
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

6. Accidental release measures

- Personal precautions** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

6. Accidental release measures

- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Use spark-proof tools and explosion-proof equipment. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal.
- Small spill** : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

7. Handling and storage

- Handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Do not breathe vapor or mist. Do not swallow. Do not get in eyes or on skin or clothing. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. Vapors are heavier than air and may spread along floors. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container. If this material is part of a multiple component system, read the Material Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.
- Storage** : Store in accordance with local regulations. Store in a segregated and approved area. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Do not store above the following temperature: 120F / 49C.

8. Exposure controls/personal protection

Name	Result	ACGIH	OSHA	Ontario	Mexico	PPG
Methyl acetate	TWA	200 ppm	200 ppm	200 ppm	200 ppm	Not established
	STEL	250 ppm	Not established	250 ppm	250 ppm	Not established
methanol	TWA	200 ppm S	200 ppm	200 ppm S	200 ppm S	Not established
	STEL	250 ppm S	Not established	250 ppm S	250 ppm S	Not established
toluene	TWA	20 ppm	200 ppm Z	20 ppm	50 ppm S	Not established
	STEL	Not established	500 ppm Z A 300 ppm Z C	Not established	Not established	Not established
Ligroine	TWA	Not	Not	Not	300 ppm	Not

8. Exposure controls/personal protection

	STEL	established Not established	established Not established	established Not established	400 ppm	established Not established
tetrahydrofuran	TWA	50 ppm S	200 ppm	50 ppm S	200 ppm	Not established
	STEL	100 ppm S	Not established	100 ppm S	250 ppm	Not established
ethanol	TWA	Not established	1000 ppm	Not established	1000 ppm	Not established
	STEL	1000 ppm	Not established	1000 ppm	Not established	Not established

Key to abbreviations

A	= Acceptable Maximum Peak	S	= Potential skin absorption
ACGIH	= American Conference of Governmental Industrial Hygienists.	SR	= Respiratory sensitization
C	= Ceiling Limit	SS	= Skin sensitization
F	= Fume	STEL	= Short term Exposure limit values
IPEL	= Internal Permissible Exposure Limit	TD	= Total dust
OSHA	= Occupational Safety and Health Administration.	TLV	= Threshold Limit Value
R	= Respirable	TWA	= Time Weighted Average
Z	= OSHA 29CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances		

Consult local authorities for acceptable exposure limits.

Recommended monitoring procedures : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.

Engineering measures : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Personal protection

Eyes : Safety glasses with side shields.

Hands : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.

Gloves : nitrile, neoprene

Respiratory : If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

Skin : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

9 . Physical and chemical properties

Physical state	: Liquid.
Flash point	: Open cup: -14.44°C (6°F)
Explosion limits	: Lower: 3.5%
Color	: Not available.
Odor	: Not available.
pH	: Not available.
Boiling/condensation point	: >37.78°C (>100°F)
Melting/freezing point	: Not available.
Specific gravity	: 0.85
Density (lbs / gal)	: 7.09
Vapor pressure	: 7 kPa (52.4 mm Hg) [20°C]
Vapor density	: Not available.
Volatility	: 99% (v/v), 100% (w/w)
Evaporation rate	: 1.16 (butyl acetate = 1)
Partition coefficient: n-octanol/water	: Not available.
% Solid. (w/w)	: 0

10 . Stability and reactivity

Stability	: Stable under recommended storage and handling conditions (see section 7).
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.
Materials to avoid	: Reactive or incompatible with the following materials: oxidizing materials, strong acids, strong alkalis
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.
Hazardous polymerization	: Under normal conditions of storage and use, hazardous polymerization will not occur.

11 . Toxicological information

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
methyl acetate	LD50 Oral	Rat	3.705 g/kg	-
	LD50 Dermal	Rabbit	>5 g/kg	-
methanol	LD50 Oral	Rat	5600 mg/kg	-
	LD50 Dermal	Rabbit	15800 mg/kg	-
	LC50 Inhalation Vapor	Rat	64000 ppm	4 hours
toluene	LC50 Inhalation	Rat	145000 ppm	1 hours
	LD50 Oral	Rat	636 mg/kg	-
	LD50 Dermal	Rabbit	8.39 g/kg	-
Ligroine	LC50 Inhalation	Rat	49 g/m3	4 hours
	LC50 Inhalation	Rat	3400 ppm	4 hours
tetrahydrofuran	LD50 Oral	Rat	1650 mg/kg	-
	LC50 Inhalation Vapor	Rat	18190 ppm	4 hours
	LC50 Inhalation Vapor	Rat	80975 ppm	1 hours
ethanol	LD50 Oral	Rat	7 g/kg	-
	LC50 Inhalation	Rat	124700 mg/m3	4 hours

Conclusion/Summary : Not available.

Chronic toxicity

Conclusion/Summary : Not available.

11 . Toxicological information

- Defatting irritant** : Prolonged or repeated contact can defat the skin and lead to irritation, cracking and/or dermatitis.
- Target organs** : Contains material which causes damage to the following organs: brain.
Contains material which may cause damage to the following organs: blood, kidneys, the nervous system, the reproductive system, liver, mucous membranes, heart, gastrointestinal tract, upper respiratory tract, skin, central nervous system (CNS), eye, lens or cornea.

Carcinogenicity**Classification**

Product/ingredient name	ACGIH	IARC	EPA	NIOSH	NTP	OSHA
<input checked="" type="checkbox"/> toluene	A4	3	-	-	-	-
<input checked="" type="checkbox"/> tetrahydrofuran	A3	-	-	-	-	-

Teratogenicity

- Teratogenicity** : Contains material which may cause birth defects, based on animal data.
- Developmental effects** : Contains material which may cause developmental abnormalities, based on animal data.
- Fertility effects** : Contains material which may impair female fertility, based on animal data.

12 . Ecological information

Environmental effects : No known significant effects or critical hazards.

Aquatic ecotoxicity

Product/ingredient name	Result	Species	Exposure
<input checked="" type="checkbox"/> methyl acetate	Acute LC50 320000 to 348000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
<input checked="" type="checkbox"/> methanol	Acute LC50 >100000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
	Acute LC50 3289 to 4395 mg/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Chronic NEL 320 mg/L Fresh water	Fish - Bluegill - Lepomis macrochirus	96 hours
<input checked="" type="checkbox"/> toluene	Acute LC50 5800 ug/L Fresh water	Fish - Rainbow trout, donaldson trout - Oncorhynchus mykiss	96 hours
	Acute EC50 6000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Chronic NOEC 28000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
<input checked="" type="checkbox"/> tetrahydrofuran	Acute LC50 2160000 to 2360000 ug/L Fresh water	Fish - Fathead minnow - Pimephales promelas	96 hours
<input checked="" type="checkbox"/> ethanol	Acute LC50 42000 ug/L Fresh water	Fish - Rainbow trout, donaldson trout - Oncorhynchus mykiss	4 days
	Acute EC50 2000 ug/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours
	Chronic NOEC <6.3 g/L Fresh water	Daphnia - Water flea - Daphnia magna	48 hours

13 . Disposal considerations

Waste disposal : The generation of waste should be avoided or minimized wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Vapor from product residues may create a highly flammable or explosive atmosphere inside the container. Do not cut, weld or grind used containers unless they have been cleaned thoroughly internally. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

14 . Transport information

Regulation	UN number	Proper shipping name	Classes	PG*	Additional information
UN	1263	PAINT RELATED MATERIAL	3	II	-
IMDG	1263	PAINT RELATED MATERIAL	3	II	-
DOT	1263	PAINT RELATED MATERIAL	3	II	-

PG* : Packing group

Reportable quantity RQ : ERCLA: Hazardous substances.: toluene: 1000 lbs. (454 kg); tetrahydrofuran: 1000 lbs. (454 kg); methanol: 5000 lbs. (2270 kg);

15 . Regulatory information

United States inventory (TSCA 8b) : All components are listed or exempted.
Australia inventory (AICS) : All components are listed or exempted.
Canada inventory (DSL) : All components are listed or exempted.
China inventory (IECSC) : Not determined.
Europe inventory (REACH) : Please contact your supplier for information on the inventory status of this material.
Japan inventory (ENCS) : All components are listed or exempted.
Korea inventory (KECI) : All components are listed or exempted.
New Zealand (NZIoC) : Not determined.
Philippines inventory (PICCS) : All components are listed or exempted.

United States

U.S. Federal regulations :

SARA 302/304/311/312 extremely hazardous substances: No products were found.

SARA 302/304 emergency planning and notification: No products were found.

SARA 302/304/311/312 hazardous chemicals: toluene; Ligroine; tetrahydrofuran; methanol; methyl acetate

ERCLA: Hazardous substances.: toluene: 1000 lbs. (454 kg); tetrahydrofuran: 1000 lbs. (454 kg); methanol: 5000 lbs. (2270 kg);

SARA 311/312 MSDS Distribution - Chemical Inventory - Hazard Identification:

Chemical name	CAS #	Acute	Chronic	Fire	Reactive	Pressure
<input checked="" type="checkbox"/> methyl acetate	79-20-9	Y	N	Y	N	N
<input checked="" type="checkbox"/> methanol	67-56-1	Y	Y	Y	N	N
<input checked="" type="checkbox"/> toluene	108-88-3	Y	Y	Y	N	N
<input checked="" type="checkbox"/> Ligroine	8032-32-4	Y	N	Y	N	N
<input checked="" type="checkbox"/> tetrahydrofuran	109-99-9	Y	N	Y	Y	N

15 . Regulatory information

Product as-supplied : Y Y Y N N

SARA 313	Chemical name	CAS number	Concentration
Supplier notification	: methanol	67-56-1	10 - 30
	toluene	108-88-3	10 - 30

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

California Prop. 65

WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

Canada

WHMIS (Canada) : Class B-2: Flammable liquid with a flash point lower than 37.8°C (100°F). Class D-1B: Material causing immediate and serious toxic effects (Toxic). Class D-2A: Material causing other toxic effects (Very toxic). Class D-2B: Material causing other toxic effects (Toxic).

Mexico

Classification

Flammability : 3 Health : 3 Reactivity : 0

16 . Other information

Hazardous Material Information System (U.S.A.)

Health : 3 * Flammability : 3 Physical hazards : 0
(*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

National Fire Protection Association (U.S.A.)

Health : 3 Flammability : 3 Instability : 0

Date of previous issue : 3/8/2012.

Organization that prepared the MSDS : EHS

Indicates information that has changed from previously issued version.

Disclaimer

The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.



Leading our Children to Success


201 West Burleigh Boulevard · Tavares · FL 32778-2496
(352) 253-6500 · Fax: (352) 343-0198 · www.lake.k12.fl.us

Superintendent:
Susan Moxley, Ed.D.

School Board Members:
District 1
Jim Miller
District 2
Rosanne Brandeburg
District 3
Tod Howard
District 4
Debbie Stivender
District 5
Kyleen Fischer

April 09, 2012

To: Whom it may concern

From:  Randy D. Wells, Loss Control Officer, Lake County School, (LCS)

RE: Air General Permit

Dear Sir/Madam,

Attached is the Air General Permit registration document along with a check for the \$100.00 fee. Lake County School (LCS) has purchased a facility to house their main transportation repair/maintenance shops. This facility is located at; 20265 U. S. HWY. 27, Clermont, Fl. (LAKE) 34711, this facility has on site a spray booth that we would like to operate under a general permit.

Attachments:

Air General Permit application
Tracking Sheet
Check for \$100.00 (Fee)
Material Safety Data Sheets (MSDS)

RECEIVED
APR 26 2012
**DIVISION OF AIR
RESOURCE MANAGEMENT**

FLORIDA DEPARTMENT OF
ENVIRONMENTAL PROTECTION
2012 APR 25 PM 12:38
TREASURY & ACCOUNTING
REVENUE

RECEIVED

SURFACE COATING OPERATIONS
Air General Permit Example Registration Worksheet

APR 26 2012

**DIVISION OF AIR
RESOURCE MANAGEMENT**

The Department of Environmental Protection (“Department” or “DEP”) has established an “air general permit” at Florida Administrative Code (“F.A.C.”) Rule 62-210.310(4)(c) for surface coating. An air general permit is an authorization by rule to construct or operate a specific type of air pollutant emitting facility. Use of such authorization by any individual facility does not require action by the Department. The terms and conditions of the air general permit are set forth in the rule, rather than in a separately issued air construction or air operation permit.

If you are the owner or operator of an eligible facility comprising one or more surface coating operations may register to use the air general permit at Rule 62-210.310(4)(c), F.A.C., by following the general procedures given at subsections 62-210.310(2) and 62-210.310 (3), F.A.C. To register, use the Department’s electronic registration system (currently under development) or submit all the information specified in the above rules to either of the following addresses, along with the air general permit registration processing fee (\$100.00).

Regular USPS Mail Delivery
Department of Environmental Protection
Receipts
Post Office Box 3070
Tallahassee, Florida 32315-3070

or

Overnight Delivery (FedEx, UPS, DHL, etc.)
Department of Environmental Protection
3800 Commonwealth Blvd.
Mail Station 77
Tallahassee, Florida 32399

If you properly register to use an air general permit, and are not denied use of the air general permit by the Department, you are authorized to construct and operate the facility in accordance with the general terms and conditions of Rule 62-210.310, F.A.C., and the specific terms and conditions of Rule 62-210.310(4)(c), F.A.C. Your facility may vary, so be sure your registration describes the operations at your facility in sufficient detail to demonstrate the facility’s eligibility for use of the air general permit and to provide a basis for tracking any future equipment or process changes. Your registration should describe all air pollutant-emitting processes and equipment at the facility, and it should identify any air pollution control measures or equipment used.

The rules do not require any specific format for the registration. This worksheet, however, has been designed to assist owners and operators. Using it as a template for a general permit registration will help ensure that all necessary information is submitted.

Additional information can be found on the Department’s air general permit program website (http://www.floridadep.org/air/emission/air_gp.htm) or by calling the Small Business Environmental Assistance Program Hotline at 1-800-SBAP-HLP (1-800-722-7457).

FLORIDA DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
2012 APR 25 PM 12:39
FINANCE & ACCOUNTING
Surface Coating Operations
Example Registration Worksheet



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