

ARPO01025
18-00565

BIGLP A6

ADEQ BASELINE MONITORING REPORT [BMR]
(for Metal Finishers under 40 CFR 433)

Instructions: In accordance with 40CFR403.12(b) Industrial Users subject to categorical Pretreatment Standards are required to submit to ADEQ a report which contains the information in paragraphs (b)(1)-(7). The User is responsible for submitting a complete and accurate report. The User must complete this form in as much detail as possible. Include additional information on attached sheets as necessary where space is limited.

(1) Facility Identifying Information [§403.12(b)(1)]:

A. Legal Name: Hino Motor Manufacturing USA LLC
Mailing Address: 100 Hino Blvd
Marion, Arkansas 72364

B. Facility Name: Hino Motor Manufacturing USA LLC
Location: 100 Hino Blvd
Marion, Arkansas 72364

C. Name of Owners: Hino Motor Manufacturing USA LLC
Address: 100 Hino Blvd
Marion, Arkansas 72364

D. Name of Pretreatment System Operators: Stephen M Kowis Class: Industrial A
Rico D Jeffery Class: Industrial A

E. Facility Signatory Authority / Title: Kevin Ohneck / VP / Plant Manager

F. Main wastewater compliance contact / Title: Jerry McPherson / Manager of EHS
Phone number: 870-702-3037 Cell #: 870-635-1367
e-mail address: jmcpherson@hmmusa.com

G. Number of Employees: 336 Number of Shifts: 2

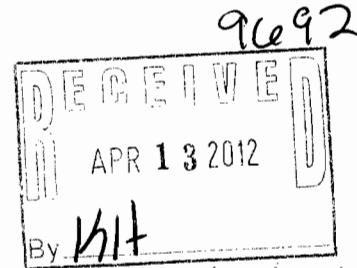
H. Number of Months per Calendar Year, which Plant normally operates: 12

I. Name of the City [Publicly Owned Treatment Works (POTW)] that receives the wastewater discharges from this facility. If this facility has other wastewater not connected to a sewerage system describe where that wastewater is discharged):

City of Marion
Marion, Arkansas

J. Provide the date the facility began discharging regulated wastewater to the POTW: October 2, 2006

Date facility installed/commenced construction of the Metal Finishing operation(s): June 2006



5/22/12 "direct" accepted.
This BMR is substantially complete.
4/20/12 JH

(2) User's Permits [§403.12(b) (2)]:

Describe all environmental control permits held by or for the facility:

Describe Title of the Permit	Permit No.	Issuing Office or Agency	Exp. Date
Air Permit	2070-AR-06 AFIN-18-00565	ADEQ	N/A
Storm Water	ARR-151404 AFIN: 18-00565	ADEQ	Dec 2012
Hazardous Waste	ARR000017565	EPA ADEQ	N/A

(3) Description of Operations [§403.12(b)(3)]:

A. List Basis Metals Used: **SPH 590 Grade Steel (please review make up of steel)**

B. List Chemicals (attach first page of their MSDS if necessary [not trade names]) used in regulated process(es) (solvents, acids, caustics, aqueous cleaners, machining oils/lubricants/coolants, etc.) and their use/at what station:

Please reviewed attached MSDS on all

C. Provide a Comprehensive Narrative Description of the facility's wastewater activities/processes or other activities conducted and the Final Products (attach a separate sheet if necessary):

Please review attachments

See Section E. below. A, B & C above can be submitted on separate sheets of paper. These do not have to be to-scale and can be hand drawn, preferably with a separate (numbered) legend for separate process/pretreatment tanks, etc. This numbered legend page can then describe what chemicals and process is being performed without further complicating the schematic.

D. Summarize each Point Source Category Core Process generating wastewater (Electroplating, Electroless Plating, Anodizing, Coating [chromating, phosphating, and coloring], Chemical Etching and Milling, and Printed Circuit Board Manufacture) See 40 CFR 433 @ http://www.access.gpo.gov/nara/cfr/waisidx_05/40cfr433_05.html for applicability):

Core Operation(s)	Pretreatment Standard Category – 40 CFR 433.17	SIC Code(s)	NAICS Code(s)
Zinc Phosphate (ED Paint)	40 CFR 433.17	N/A	33635
Chemical Acid Wash (side rail)	40 CFR 433.17	N/A	33635

List any of the forty (40) "ancillary" operations generating wastewater (see 40 CFR 433.10 @ http://www.access.gpo.gov/nara/cfr/waisidx_05/40cfr433_05.html for these which are also regulated under 40 CFR 433)

E. Provide on separate sheets (if necessary):

- (i) A comprehensive schematic of manufactured parts flow through each regulated process that generates Federally regulated wastewater. These are preferably to be not-to-scale and on 8.5"X11" sheets of paper and can be hand drawn if CAD is not available.
- (ii) A comprehensive schematic drawing showing all wastewater directional flows (regulated and unregulated), location of pretreatment system, sampling locations and flows for each individual wastestream. Show points of discharge to the POTW from regulated processes and sampling point. These do not have to to-scale and can be hand drawn if CAD is not available. Several 8.5" X 11" sheets are preferable to one large facility layout.
- (iii) Denote any Pollution Prevention (P2) practices such as flowlines showing in-situ filtration, counter-current flows, air knives, wet scrubber return water to baths, acid/caustic baths regeneration, etc.
- (iv) Denote chemical storage areas (bulk storage, at workstations, outdoor, etc.)
- (v) Denote any floor drains and containment areas (curbs, secondary containment, below grade grated troughs pumped/gravity-flowed to pretreatment, etc).
- (vi) In lieu of Total Toxic Organic (TTO) monitoring, a Toxic Organic Management Plan (TOMP) may be submitted. Once approved by ADEQ, the following certification statement may be made: ``Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation for total toxic organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the toxic organic management plan submitted to ADEQ."`

(4) Flow Measurement [§403.12(b)(4)]:

A. Total Plant Flow in Gallons per Day (gpd):

Average 6,044 Maximum _____

{denote all the flows below if measured [M] or estimated [E]}

B. Individual Flows in Gallons per Day ¹ (gpd); <u>Dilute</u> wastestreams include non-contact cooling water, sanitary waste, boiler blowdown, etc.	Average Flow Rate ² (gpd)	Max. Flow Rate (gpd)	Type Discharge ² and at what frequency (describe)	Discharged to City, hauled off-site or recycled (describe)

Regulated Streams				
Waste Water Treatment	6,044		Continuous	Discharged to City of Marion
Unregulated Streams	0			
Dilute Streams ³	0			
Non-Contact Cooling Water	0			
Boiler Blowdown	0			
Sanitary Wastewater	25 gpd per person			Sanitary wastewater is discharge to City of Marion, AR POTW
De-I or R/O backwash	0			

¹Referring to 40 CFR403.6 (e) (1) average flows must be for a 30-day period unless batch discharges are less frequent than monthly.

²Do not normalize over a period of days if batch discharged; state measured amount per batch and at what frequency). Show type - Continuous, Batch (Monthly, Semi-annually, 1 per 3 months, 5 days/week, 25 days/30-day period, etc.)

³ Denote whether any of these streams are combined to the regulated wastestream prior to pretreatment OR prior to the final sampling point. If any of these flows are combined with the regulated wastestream as alluded to above, the MAC and AAC values in Section (5)C. below will have to be calculated.

(5) Measurement of Pollutants in User's Discharge to POTW [§ 403.12(b)(5)]:

A. (i) Cite Evidence why the process wastewater is subject to 40 CFR 433:

Core Process: Zinc Phosphate (ED Paint)

Core Process: Chemical Acid Wash (side rail)

Core Process: _____

(ii) Provide on a separate sheet a comprehensive schematic of all wastewater pretreatment equipment (holding tanks, mixing tanks, chemical injection points, clarifier, sludge holding tank, sludge press/supernatant, flow lines, etc) and wastewater flows direction. Show treatment system location in relation to process flows and sampling points on schematic drawing required in Section 3.E.(ii) above.

B. Analysis of Regulated Flows: The industrial user must perform sampling and analysis of the effluent from all regulated processes which discharge into the POTW (after pretreatment). Provide the analytical data for the regulated processes in the appropriate space below. If facility's Metal Finishing regulated flow is the only flow that is sampled, the below limits apply.

CONCENTRATION (mg/l)									
40 CFR 433.17 Limits	Pollutant								
	Cd	Cr	Cu	Pb	Ni	Ag	Zn	CN	TTO**
Maximum daily	0.11	2.77	3.38	0.69	3.98	0.43	2.61	1.20	2.13
Monthly Average* not to exceed	0.07	1.71	2.07	0.43	2.38	0.24	1.48	0.65	---

* Regardless of samples taken/analyzed, these limits must be met at a minimum.

** See http://edocket.access.gpo.gov/cfr_2005/julqtr/pdf/40cfr433.11.pdf for list of Toxic Organics.

C. Analysis of Total Plant Flow (Mark each blank "N/A" if not appropriate/applicable)

In accordance with 40 CFR 403.6(e) an industrial user may sample and analyze the total plant flow and calculate an alternate concentration limit using the combined wastestream formula if regulated process flows are mixed with other flows prior to treatment and/or sampling. Record the analytical results for all regulated pollutants below. Record the calculated concentration limits as well as the actual measured concentrations.

CONCENTRATION (mg/l)									
	Pollutant								
	Cd	Cr	Cu	Pb	Ni	Ag	Zn	CN	TTO
MAC ¹	--	--	--	--	--	--	--	--	--
AAC ²	--	--	--	--	--	--	--	--	--
AMMC ³	0.0005	0.01	0.31	0.0005	0.78	0.0005	0.048	0.01	N/D
AMAC ⁴	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

1 MAC --- Maximum Alternate Concentration as determined by ADEQ. *[If facility's Metal Finishing sampled flow is diluted with sanitary wastewater,*

2 AAC --- Average Alternate Concentration as determined by ADEQ. *boiler blowdown or non-contact cooling water, these numbers will have to be calculated per the Combined Wastestream Formula (CWF) in 40 CFR 403.6]*

3 AMMC --- Actual Measured Maximum Concentration from Lab results. *[Facility's results must include the (ADEQ certified) lab's results & QA sheet*

4 AMAC --- Actual Measured Average Concentration from Lab results. *along with a complete chain of custody]*

D. User Sample Location*: **Discharge Tank to City of Marion**

*This location should be identified on the wastewater flow schematic required in Section 3.E.(ii) above. }

Sample Type (Composite samples are required except where not feasible or where grab samples are specifically required)

Grab Sample

Number of Samples Taken: 6 Frequency (Daily, Weekly, etc) Semi-Annual (future)

Analytical Methods Used (Must be in accordance with 40CFR136--for example: Meth. 200.7, 624, 625, etc.) _____

Please review attached analytical Result _____

(6) Certifications [§403.12(b)(5)(viii) & 403.12(b)(6)]:

40 CFR 403.12(b)(6) Compliance Certification

A. Are applicable categorical pretreatment standards being met on a consistent basis? YES NO

B. If no, do you require:


(i) Additional operation and maintenance (O&M) to achieve compliance? YES NO

(ii) New or additional pretreatment facilities to achieve compliance? YES NO

40 CFR 403.12(b)(5)(viii) Representative Certification

I certify, to the best of my knowledge, that the sampling and analysis as shown in Section 5 above is representative of the User's normal work cycles and the expected Discharges to the POTW.

Print Name: Jerry McPherson

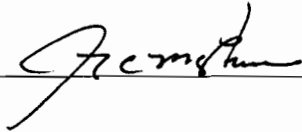
Signature: 

Date: 4/11/2012

In accordance with 40CFR403.12(b)(5)(viii) & (6) a qualified professional must complete and sign these certifications in the space below.

Name & Title Jerry McPherson Manager of EHS
Qualified Professional (Please Type or Print)

Signature



Date April 11, 2012

(7) A. If additional O&M or new or additional pretreatment will be required to meet categorical pretreatment standards on a consistent basis, provide an explanation in an attachment. New sources must not commence discharge until compliance is possible.

B. Signatory Requirement [40 CFR 403.12(l)]

(7) A. If additional O&M or new or additional pretreatment will be required to meet categorical pretreatment standards on a consistent basis, provide an explanation in an attachment. New sources must not commence discharge until compliance is possible.

B. Signatory Requirement [40 CFR 403.12(l)]

40 CFR 403.12(l)(3) Authorization to Sign Environmental Reports

I hereby authorize persons filling the position title of Manager of EHS, responsible for the overall operation of the HMMAR Waste Water Pretreatment Center, Arkansas, to sign all regular reports required by National Pretreatment Standards--pursuant to ADEQ rules and/or Clean Water Act (CWA) regulations. This written authorization is provided in accordance with 40 CFR 403.12(l) and comparable state regulations.

Kevin Ohneck VP / Plant Manger.
Corporate official name & title here


Signature

April 11, 2012
Date

40 CFR 403.6(a)(2)(ii) Certification

I certify under penalty of law that I have personally examined and am familiar with the information in this Baseline Monitoring Report and all attachments, and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the report, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

Jerry McPherson

Name of Authorized Representative (Please Type or Print)

Manager of EHS

Official Title (Please Type or Print)



Signature

April 11, 2012

Date

TTO Certification Statement

(As mentioned in Section 3.E.(vi) above, the facility may submit a Toxic Organic Management Plan (TOMP) to ADEQ and receive TOMP approval before the waiver of TTO monitoring can be granted and the below certification statement can be made. EPA Guidance material can be found at <http://www.epa.gov/npdes/pubs/owm0021.pdf> for an acceptable TOMP)

“Based on my inquiry of the person or persons directly responsible for managing compliance with the permit limitation for total toxic organics (TTO), I certify that, to the best of my knowledge and belief, no dumping of concentrated toxic organics into the wastewaters has occurred since filing of the last discharge monitoring report. I further certify that this facility is implementing the toxic organic management plan submitted to ADEQ.”

Name of Authorized Representative (Please Type or Print)

Official Title (Please Type or Print)

Signature

Date

Summary of Activity

Hino Motors Manufacturing U.S.A., Inc (HMMAR) operates an auto parts production plant located in Marion, Arkansas. Which product parts for the Toyota Tundra and Sequoia, and product parts for the Hino brand truck too.

Process Description

The projected schedule for manufacturing operating hours for production are two (2) eight-hour (8-hour) shifts, five (5) days per week. Within a shift, the production operating time is 7.75 hours. This design production basis establishes the average hourly production and materials consumption rates for these applications. In addition, to periods to catch up on production or to meet client demand shortfalls, it may be necessary to operate three (3) shifts per day and six (6) days per week. The potential 100% capacity operating time is considered the equivalent of 24 hours per day, 365 days per year or 8,760 hour per year. There are no limits on annual hours of operation.

Truck Parts Electro Deposition Coating Line

Miscellaneous truck axle parts fabricated will be cleaned, surface treated and painted in an Electro Deposition Coating (ED Coating) line. The parts are dipped in pretreatment tanks in the following order; #1 for Degreaser, #2 for city water rinse, #3 for surface condition, #4 for zinc phosphate, #5 for city water rinse, #6 for RO rinse, # 7 which is the E-Coating applied to the parts, # 8 is for UF Rinse and #9 DI Water rinse is the final process before going into the curing oven. The Electro Deposition Coating (painting) uses a two-component water-borne coating of pigments and resin diluted with water in the coating dip tank. After pretreatment and coating process, a conveyor carries the coated parts into a 190°C-heated oven for curing.

Machining and Weld line Processes

The plant manufacture rear differentials, front and rear suspension parts (upper and lower, front and rear suspension) and the rear axles. The production floor has multiple lines and stations for machining, welding, treating, cleaning and assembly of the parts.

Machining of front and rear suspension parts are being done in enclosed machining stations using water with soluble cutting/additives. Manufacture of the different components can involve machining, preparation, welding and assembly of about fifteen (15) different parts that go into the rear axle assembly. All welding stations are closed booths and connected to the filtered welding exhaust system. The rear axle shaft process involves machining and heat-treating. An enclosed machining station prevents cutting solution mist that might be generated in the machine from being released into the plant. The differential case lines involve enclosed machining stations. The differential case and parts come together at the differential assembly line. Parts washed in the several aqueous washing machines are air dried after the hot water wash. There are three (3) rear axle housing lines involving machining and robotic welding activities. The axle fabrication involves welding together the steel upper and lower halves of the housing and the attached parts and performing necessary machining of surfaces. All of the spent water-soluble cutting and washing fluids are a non-hazardous waste / non-regulated waste and are being taken care of an outside environment service for recycling and disposal.

Rear Axle Paint Line

After assemble of the rear axle housing, shafts, differential and other components, the assembled rear axle is prepared for painting on a conveyORIZED Axle Coating Line, which paint into two booths. For painting, the axles are hung on an overhead conveyor line to pass through the spray coating booths and then into gas fired curing oven. All axles are painted using only one (1) black, waterborne coating. Paint application will be performed in two (2) cross-flow booths in series; where opposite sides of the axle will be sprayed with electrostatic air assisted spray guns.

Press Plant

The Press Plant produces suspension parts for pickup trucks and SUVs assembled elsewhere in the facility. Raw material (steel Coils) are shipped in by semi-trailers and placed into storage. Steel coils that are need for product is selected and place on the leveling operation that runs into the blank press to be blanked out for the transfer press and placed into cassettes. The cassettes are placed into the transfer press to be formed into parts for the welding and assemble produces.

NAPS

(Side Rails for Hino Trucks)

Process Description

Flat steel blanks are bought in and placed in a roll mill, which form them into channels (side rails). Channels are sent through a straighten machine to remove any type of bend and then place on the conveyor for the laser cutting holes, then to drill and tapping station. Now the channel is ready for the coating operation.

Shot Blasting & Pretreatment

The rail is first sent through a shot blaster before entering into pretreatment system. The pretreatment processes are as followed; area #1 is for pre-greasing which is only heated water sprayed on the rail, #2 is the greasing spray, #3 and #4 are city water rinse #5 acid chemical pretreatment is sprayed on the rail, #6 & #7 are RO water rinse spray then into the powder coating.

Powder Coating

The parts are powder coated, and then baked in a curing oven. The parts then go through touch-up, inspection, and packaging before shipping out to customer.

* Correction May-6.2005
 * Page renewal Jun-17.2005
 * Correction Oct-26.2005

HMM PART ED PAINT candidate material list (HINO MOTERS,Ltd idea)

HINO MOTERS,Ltd
 BODY PRODUCTION ENGINEERING DIV.

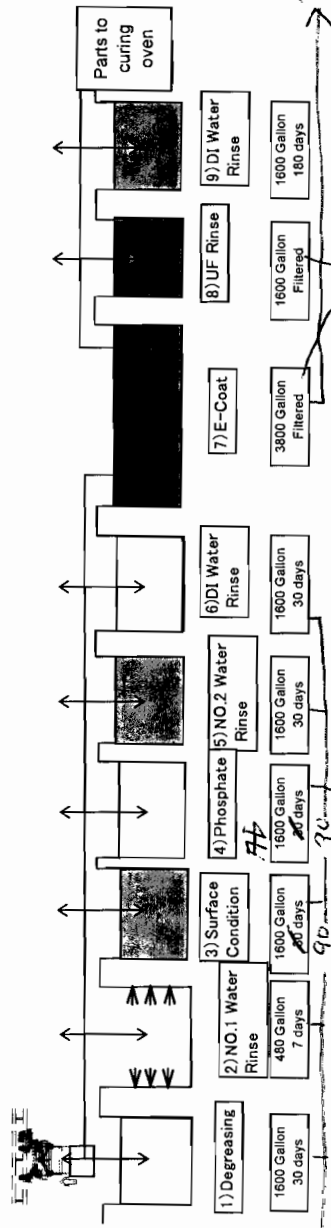
1)PT&ED paint candidate material(HINO's idea)

Process	Material name	Supplier	Actual or New	Unit price "\$/Liter or kg"	Amount of use "g/skid"	Appearance	Style of packing
Pretreatment	Degreasing	Henkel Corporation	Hamura	?	45.6	Powder	15kg/paper bag *1
	Parco cleaner L4480 or E2001L			estimating	Colorless liquid	20kg/per can	
	Surface condition			6.8	White slurry	20kg/per can	
	Additive			2.2	Colorless liquid	20kg/portanc	
	Phosphate			171.1	Green liquid	18kg/per can	
	Accelerator			85.6	Pale yellow liquid	20kg/portanc	
E-coat	F1 pigment	PKAF	TMMK,NUMMI	?	In irregularity	Colorless liquid	20kg/portanc
	F2 resin			?	In irregularity	Colorless liquid	20kg/portanc
				?	168.8	Black liquid	55 gallon/drums
				?	1,406.6	Black liquid	55 gallon/drums

*1 Bag to which inside is Contanged so that powder should not leak

2)PT&ED Process Outline

Item	Content	Remarks
Paint method	Full Dip	
Conveyer system	Auto carrier	
Tact time	4 min/skid	6 palette/skid
Work hours	456min*2-shift	
Production capacity	54743 skid/year	456min * 2-shift *245day *98% efficiency :98%



No	1	2	3	4	5	6	7	8	9
Process	Degreasing	NO.1 Water Rinse	Pretreatment Process	Phosphate	NO.2 Water Rinse	DI Water Rinse	E-Coat	UF Rinse	DI Water Rinse
	Parco cleaner L4480 or E2001L	Industrial water	Fixodine X	Bonderite SX35	Industrial water	DI Water	ED6601 F1(Black) ED6601 F2(Black)	UF Rinse	DI Water
Supplier	Henkel Corporation	-	Henkel Corporation	Henkel Corporation	-	-	PKAF	-	-
Method	Full Dip	Spray	Full Dip	Full Dip	Full Dip	Full Dip	Full Dip	Full Dip	Full Dip
Temp	45~55°C	-	The temperature condition is unnecessary.	33~37°C	-	-	28~30°C	-	-
Tank size	7tons	2tons	7tons	7tons	7tons	7tons	16tons	7tons	7tons



Pretreatment Tank Dumping Schedule

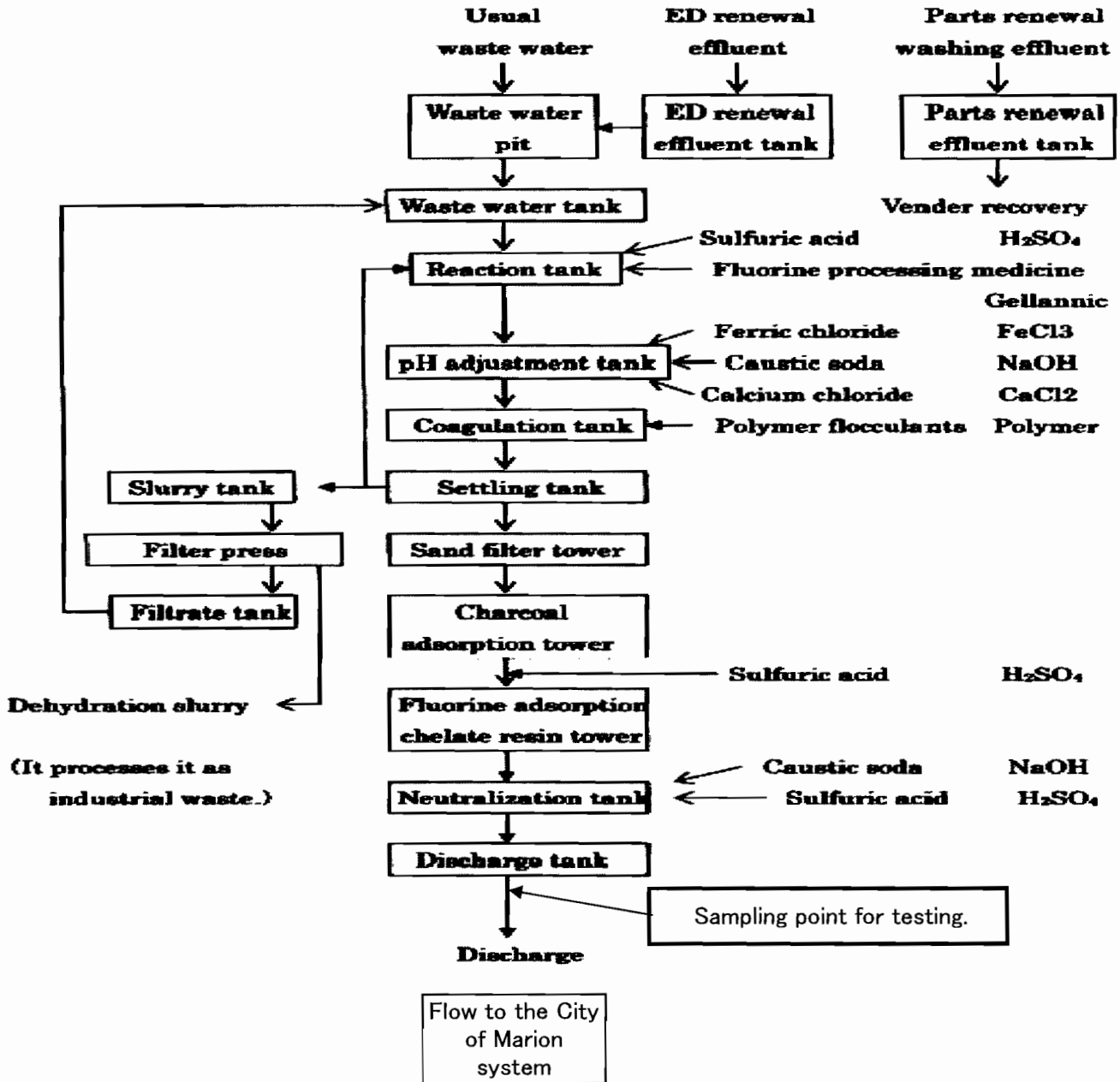
EDP (Tanks)	Operation (process flow)	Tank size (Gallon)	Tank Emptied (days)	Gallons (per Year)
1	Degrease	1600	30	19,200
2	City Water	480	7	24,686
3	Surface Condition	1600	90	6,400
4	Zinc Phosphate	1600	90	6,400
5	City Water	1600	60	9,600
6	RO Water Rinse	1600	60	9,600
7	Paint Bath (ED)	1600	Filtered	
8	UF Rinse	1600	Filtered	
9	RO Water Rinse	1600	180	3,200
Total Gallons				79,086

NAPS (Tanks)	Operation (process flow)	Tank size (Gallon)	Tank Emptied (days)	Gallons (per Year)
1	Pre-greasing	132	30	1,584
2	Greasing	185	30	2,220
3	Water Rinse	106	30	1,272
4	Water Rinse	106	30	1,272
5	Chemical Treatment	370	30	4,440
6	Water Rinse	132	30	1,584
7	Water Rinse	132	30	1,584
Total Gallons				13,956



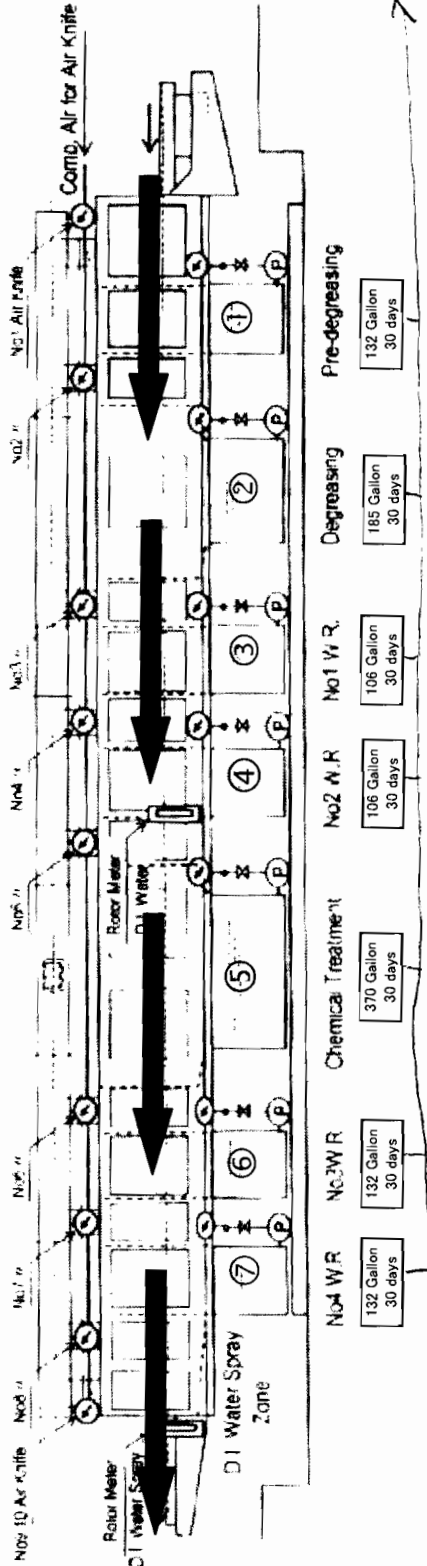
Material flow through the Waste Water Treatment center

II Processing flow chart

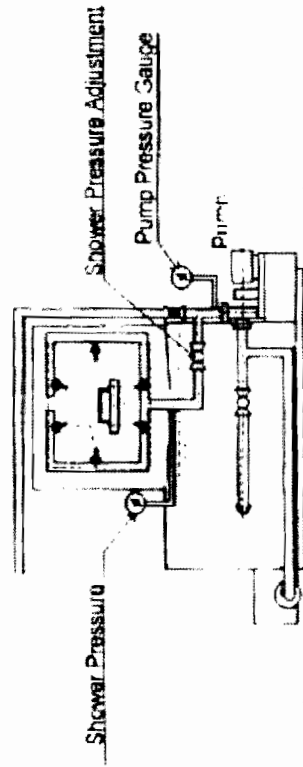




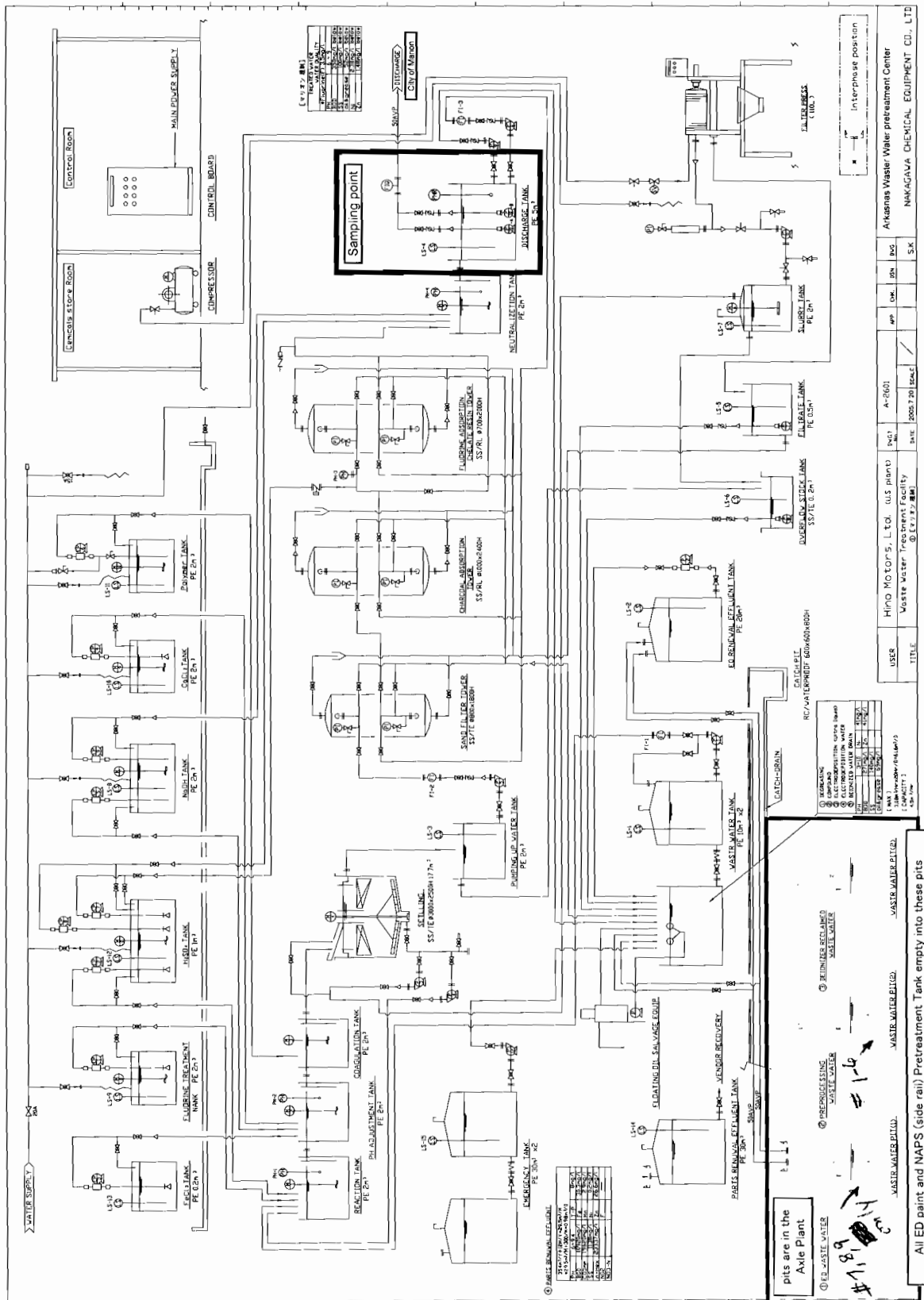
NAPS (Side Rail) Pretreatment Line



→ To PIT #2
AB



Shower Zone/Ex. Chemical



(モーター番号)

モーター番号	容量	電圧	電流	回転数
1-1	100	200V	10A	1450
1-2	100	200V	10A	1450
1-3	100	200V	10A	1450
1-4	100	200V	10A	1450
1-5	100	200V	10A	1450
1-6	100	200V	10A	1450
1-7	100	200V	10A	1450
1-8	100	200V	10A	1450
1-9	100	200V	10A	1450
1-10	100	200V	10A	1450

品名	仕様	数量
ポンプ	100V 10A	10
弁	100mm	20
配管	φ100	100
電線	φ10	100
その他		
合計		

① 汚泥貯留タンク
 ② 汚泥貯留タンク
 ③ 汚泥貯留タンク
 ④ 汚泥貯留タンク
 ⑤ 汚泥貯留タンク
 ⑥ 汚泥貯留タンク
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USER	HINO MOTORS, LTD. (us plant)
TITLE	Waste Water Treatment Facility
DATE	2003.7.20 (初版)
SCALE	1/50
PROJECT NO.	A-7601
DESIGNER	BSK
CHECKER	SK

品名	仕様	数量
ポンプ	100V 10A	10
弁	100mm	20
配管	φ100	100
電線	φ10	100
その他		
合計		

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STRATEGIC BILL OF LADING SHORT FORM



SHIPPER:

DATE:

Goods described in the body of this bill of lading are the property of the shipper and shall remain so until delivery to the consignee.

FROM:

TO:

WEIGHT AND MEASUREMENTS:

UNIT OF MEASUREMENT:

UNIT:

UNIT:

SHIPPER'S WEIGHT AND MEASUREMENTS:

SHIPPER'S WEIGHT AND MEASUREMENTS:

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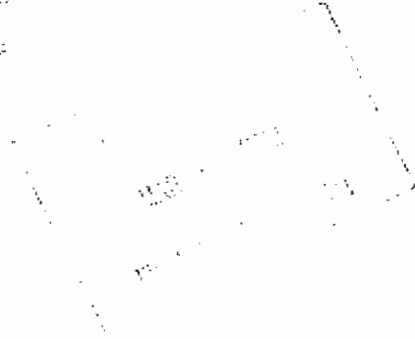
SHIPPER'S WEIGHT AND MEASUREMENTS:

SHIPPER'S WEIGHT AND MEASUREMENTS:



Material Spec.(made up)

Handwritten notes: Ken. Dan... 2/20/12



Steel Technologies

Signature on file: 332129

Domestic Address of Shipper:



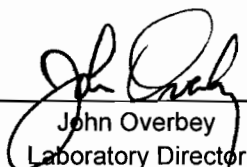
March 27, 2012
Control No. 155864
Page 1 of 25

Hino Motors Manufacturing USA, Inc.
ATTN: Mr. Jerry McPherson
100 Hino Boulevard
Marion, AR 72364

This report contains the analytical results and supporting information for the sample submitted on March 7, 2012. Attached please find a copy of the Chain of Custody and/or other documents received. Note that any remaining sample will be discarded two weeks from the original report date unless other arrangements are made.

This report is intended for the sole use of the client listed above. Assessment of the data requires access to the entire document.

This report has been reviewed by the Laboratory Director or a qualified designee.



John Overbey
Laboratory Director

This document has been distributed to the following:

PDF cc: Hino Motors Manufacturing USA, Inc.
ATTN: Mr. Jerry McPherson
jmcpherson@hmmusa.com



Hino Motors Manufacturing USA, Inc.
100 Hino Boulevard
Marion, AR 72364

SAMPLE INFORMATION

Project Description:

One (1) water sample(s) received on March 7, 2012
Waste Water Treatment-Discharger
P.O. No. 38558

Receipt Details:

A Chain of Custody was provided. The samples were delivered in one (1) ice chest.

Each sample container was checked for proper labeling, including date and time sampled. Sample containers were reviewed for proper type, adequate volume, integrity, temperature, preservation, and holding times. Any exceptions are noted below:

Sample Identification:

<u>Laboratory ID</u>	<u>Client Sample ID</u>	<u>Sampled Date/Time</u>	<u>Notes</u>
155864-1	WWT Discharger 3-7-2012 0900	07-Mar-2012 0900	

Qualifiers:

- D Result is from a secondary dilution factor
- H Analytical holding time exceeded regulatory requirements
- R n-Nitrosodiphenylamine cannot be separated from diphenylamine

Case Narrative:

Elevated reporting limits for Base/Neutral and Acid Compounds and Organochlorine Pesticides are due to matrix interference.

Analysis for 2,3,7,8-TCDD is performed as a screen only. Analysis is completed with a single standard analyzed at the RL (Reporting Limit). A method blank was analyzed with the sample. Matrix spike and matrix spike duplicate were not performed.

Table II of 40 CFR Part 136.3 indicates analysis of pH, Total Residual Chlorine, and Dissolved Oxygen are to be performed on site or immediately after collection. American Interplex Corporation analyzes these parameters as soon as possible after laboratory receipt.

References:

- "Methods for Chemical Analysis of Water and Wastes", EPA/600/4-79-020 (Mar 1983) with updates and supplements EPA/600/5-91-010 (Jun 1991), EPA/600/R-92-129 (Aug 1992) and EPA/600/R-93-100 (Aug 1993).
- "Test Methods for Evaluating Solid Waste Physical/Chemical Methods (SW846)", Third Edition.
- "Standard Methods for the Examination of Water and Wastewaters", 20th edition, 1998.
- "American Society for Testing and Materials" (ASTM).
- "Association of Analytical Chemists" (AOAC).

Hino Motors Manufacturing USA, Inc.
 100 Hino Boulevard
 Marion, AR 72364

ANALYTICAL RESULTS
AIC No. 155864-1

Sample Identification: WWT Discharger 3-7-2012 0900

Analyte	Result	RL	Units	Qualifier
pH SM 4500-H+ B	6.8 Analyzed: 07-Mar-2012 1624 by 302		Units Batch: W39153	H
Total Cyanide SM4500-CN C,E	< 0.01 Analyzed: 13-Mar-2012 1309 by 302	0.01	mg/l Batch: W39200	
Prep: 13-Mar-2012 0831 by 302				
Cyanides Amenable to Chlorination SM4500-CN G	< 0.01 Analyzed: 15-Mar-2012 1358 by 302	0.01	mg/l Batch: W39221	
Prep: 14-Mar-2012 1010 by 302				
Total Suspended Solids USGS 3765	7.4 Analyzed: 12-Mar-2012 0827 by 285	4	mg/l Batch: W39178	
Prep: 09-Mar-2012 1321 by 285				
Cadmium EPA 200.8	< 0.5 Analyzed: 23-Mar-2012 0308 by 270	0.5	ug/l Batch: S32072	
Prep: 21-Mar-2012 1135 by 295				
Chromium EPA 200.8	< 10 Analyzed: 23-Mar-2012 0308 by 270	10	ug/l Batch: S31977	
Prep: 08-Mar-2012 0858 by 295				
Copper EPA 200.8	31 Analyzed: 23-Mar-2012 0308 by 270	0.5	ug/l Batch: S32072	
Prep: 21-Mar-2012 1135 by 295				
Lead EPA 200.8	< 0.5 Analyzed: 23-Mar-2012 0308 by 270	0.5	ug/l Batch: S32072	
Prep: 21-Mar-2012 1135 by 295				
Nickel EPA 200.8	780 Analyzed: 23-Mar-2012 0308 by 270	0.5	ug/l Batch: S32072	
Prep: 21-Mar-2012 1135 by 295				
Silver EPA 200.8	< 0.5 Analyzed: 23-Mar-2012 0308 by 270	0.5	ug/l Batch: S32072	
Prep: 21-Mar-2012 1135 by 295				
Zinc EPA 200.8	48 Analyzed: 23-Mar-2012 0308 by 270	20	ug/l Batch: S31977	
Prep: 08-Mar-2012 0858 by 295				
Oil and Grease EPA 1664A	< 5 Analyzed: 11-Mar-2012 1559 by 288	5	mg/l Batch: B7492	
Prep: 09-Mar-2012 1610 by 288				
Base/Neutral and Acid Compounds By EPA 625				
Acenaphthene EPA 625	< 100 Analyzed: 13-Mar-2012 1935 by 301	100	ug/l Batch: B7499	D Dil: 10
Prep: 13-Mar-2012 0844 by 290				
Acenaphthylene EPA 625	< 100 Analyzed: 13-Mar-2012 1935 by 301	100	ug/l Batch: B7499	D Dil: 10
Prep: 13-Mar-2012 0844 by 290				
Anthracene EPA 625	< 100 Analyzed: 13-Mar-2012 1935 by 301	100	ug/l Batch: B7499	D Dil: 10
Prep: 13-Mar-2012 0844 by 290				
Benzidine EPA 625	< 500 Analyzed: 13-Mar-2012 1935 by 301	500	ug/l Batch: B7499	D Dil: 10
Prep: 13-Mar-2012 0844 by 290				
Benzo(a)anthracene EPA 625	< 50 Analyzed: 13-Mar-2012 1935 by 301	50	ug/l Batch: B7499	D Dil: 10
Prep: 13-Mar-2012 0844 by 290				
Benzo(a)pyrene EPA 625	< 50 Analyzed: 13-Mar-2012 1935 by 301	50	ug/l Batch: B7499	D Dil: 10
Prep: 13-Mar-2012 0844 by 290				
Benzo(g,h,i)perylene EPA 625	< 200 Analyzed: 13-Mar-2012 1935 by 301	200	ug/l Batch: B7499	D Dil: 10
Prep: 13-Mar-2012 0844 by 290				
Benzo(k)fluoranthene EPA 625	< 50 Analyzed: 13-Mar-2012 1935 by 301	50	ug/l Batch: B7499	D Dil: 10
Prep: 13-Mar-2012 0844 by 290				

Hino Motors Manufacturing USA, Inc.
 100 Hino Boulevard
 Marion, AR 72364

ANALYTICAL RESULTS

AIC No. 155864-1 (Continued)

Sample Identification: WWT Discharger 3-7-2012 0900

Analyte	Result	RL	Units	Qualifier
Base/Neutral and Acid Compounds By EPA 625 (Continued)				
3,4-Benzofluoranthene EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Bis(2-chloroethoxy)methane EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Bis(2-chloroethyl)ether EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Bis(2-chloroisopropyl)ether EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Bis(2-ethylhexyl)phthalate EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
4-Bromophenyl phenyl ether EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Butylbenzyl phthalate EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
2-Chloronaphthalene EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
2-Chlorophenol EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
4-Chlorophenyl phenyl ether EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Chrysene EPA 625	< 50	50	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Di-n-butyl phthalate EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Di-n-octyl phthalate EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Dibenz(a,h)anthracene EPA 625	< 50	50	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
3,3'-Dichlorobenzidine EPA 625	< 50	50	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
2,4-Dichlorophenol EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Diethyl phthalate EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Dimethyl phthalate EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
2,4-Dimethylphenol EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
4,6-Dinitro-o-cresol EPA 625	< 500	500	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10

Hino Motors Manufacturing USA, Inc.
 100 Hino Boulevard
 Marion, AR 72364

ANALYTICAL RESULTS
AIC No. 155864-1 (Continued)

Sample Identification: WWT Discharger 3-7-2012 0900

Analyte	Result	RL	Units	Qualifier
Base/Neutral and Acid Compounds By EPA 625 (Continued)				
2,4-Dinitrophenol EPA 625	< 500	500	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
2,4-Dinitrotoluene EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
2,6-Dinitrotoluene EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
1,2-Diphenylhydrazine EPA 625	< 200	200	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Fluorene EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Hexachlorobenzene EPA 625	< 50	50	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Hexachlorobutadiene EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Hexachlorocyclopentadiene EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Hexachloroethane EPA 625	< 200	200	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Indeno(1,2,3-cd)pyrene EPA 625	< 50	50	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Isophorone EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
n-Nitrosodi-n-propylamine EPA 625	< 200	200	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
n-Nitrosodimethylamine EPA 625	< 500	500	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
n-Nitrosodiphenylamine EPA 625	< 200	200	ug/l	DR
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Naphthalene EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Nitrobenzene EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
2-Nitrophenol EPA 625	< 200	200	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
4-Nitrophenol EPA 625	< 500	500	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
p-Chloro-m-cresol EPA 625	< 100	100	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10
Pentachlorophenol EPA 625	< 50	50	ug/l	D
Prep: 13-Mar-2012 0844 by 290	Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	Dil: 10

Hino Motors Manufacturing USA, Inc.
100 Hino Boulevard
Marion, AR 72364

ANALYTICAL RESULTS

AIC No. 155864-1 (Continued)

Sample Identification: WWT Discharger 3-7-2012 0900

Analyte	Result	RL	Units	Qualifier
Base/Neutral and Acid Compounds By EPA 625 (Continued)				
Phenanthrene EPA 625	< 100 Prep: 13-Mar-2012 0844 by 290 Analyzed: 13-Mar-2012 1935 by 301	100	ug/l Batch: B7499	D Dil: 10
Phenol EPA 625	< 100 Prep: 13-Mar-2012 0844 by 290 Analyzed: 13-Mar-2012 1935 by 301	100	ug/l Batch: B7499	D Dil: 10
Pyrene EPA 625	< 100 Prep: 13-Mar-2012 0844 by 290 Analyzed: 13-Mar-2012 1935 by 301	100	ug/l Batch: B7499	D Dil: 10
1,2,4-Trichlorobenzene EPA 625	< 100 Prep: 13-Mar-2012 0844 by 290 Analyzed: 13-Mar-2012 1935 by 301	100	ug/l Batch: B7499	D Dil: 10
2,4,6-Trichlorophenol EPA 625	< 100 Prep: 13-Mar-2012 0844 by 290 Analyzed: 13-Mar-2012 1935 by 301	100	ug/l Batch: B7499	D Dil: 10
Surrogate: 2-Fluorobiphenyl (Diluted Out) EPA 625	- Prep: 13-Mar-2012 0844 by 290 Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	D Dil: 10
Surrogate: 2-Fluorophenol (Diluted Out) EPA 625	- Prep: 13-Mar-2012 0844 by 290 Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	D Dil: 10
Surrogate: Nitrobenzene-D5 (Diluted Out) EPA 625	- Prep: 13-Mar-2012 0844 by 290 Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	D Dil: 10
Surrogate: Terphenyl-D14 (Diluted Out) EPA 625	- Prep: 13-Mar-2012 0844 by 290 Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	D Dil: 10
Surrogate: 2,4,6-Tribromophenol (Diluted Out) EPA 625	- Prep: 13-Mar-2012 0844 by 290 Analyzed: 13-Mar-2012 1935 by 301		Batch: B7499	D Dil: 10
Base/Neutral and Acid Compounds By EPA 625 (Screen)				
2,3,7,8-TCDD EPA 625 (Screen)	< 10 Prep: 13-Mar-2012 0844 by 290 Analyzed: 13-Mar-2012 1935 by 301	10	ug/l Batch: B7499	D Dil: 10
Volatile Organic Compounds By EPA 624				
Acrolein EPA 624	< 50 Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	50	ug/l Batch: V7949	
Acrylonitrile EPA 624	< 20 Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	20	ug/l Batch: V7949	
Benzene EPA 624	< 10 Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	10	ug/l Batch: V7949	
Bromoform EPA 624	< 10 Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	10	ug/l Batch: V7949	
Carbon tetrachloride EPA 624	< 2.0 Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	2.0	ug/l Batch: V7949	
Chlorobenzene EPA 624	< 10 Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	10	ug/l Batch: V7949	
Chlorodibromomethane EPA 624	< 10 Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	10	ug/l Batch: V7949	
Chloroethane EPA 624	< 50 Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	50	ug/l Batch: V7949	

Hino Motors Manufacturing USA, Inc.
100 Hino Boulevard
Marion, AR 72364

ANALYTICAL RESULTS

AIC No. 155864-1 (Continued)

Sample Identification: WWT Discharger 3-7-2012 0900

Analyte	Result	RL	Units	Qualifier
Volatile Organic Compounds By EPA 624 (Continued)				
2-Chloroethyl vinyl ether EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
Chloroform EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
1,2-Dichlorobenzene EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
1,3-Dichlorobenzene EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
1,4-Dichlorobenzene EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
Dichlorobromomethane EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
1,1-Dichloroethane EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
1,2-Dichloroethane EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
1,1-Dichloroethylene EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
trans-1,2-Dichloroethylene EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
1,2-Dichloropropane EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
1,3-Dichloropropylene EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
Ethylbenzene EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
Methyl bromide(Bromomethane) EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 50 50	ug/l Batch: V7949	
Methyl chloride(Chloromethane) EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 50 50	ug/l Batch: V7949	
Methylene chloride EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 20 20	ug/l Batch: V7949	
1,1,2,2-Tetrachloroethane EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
Tetrachloroethylene EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
Toluene EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	
1,1,1-Trichloroethane EPA 624	Prep: 08-Mar-2012 0900 by 301 Analyzed: 08-Mar-2012 1308 by 301	< 10 10	ug/l Batch: V7949	

Hino Motors Manufacturing USA, Inc.
 100 Hino Boulevard
 Marion, AR 72364

ANALYTICAL RESULTS
AIC No. 155864-1 (Continued)

Sample Identification: WWT Discharger 3-7-2012 0900

Analyte	Result	RL	Units	Qualifier
Volatile Organic Compounds By EPA 624 (Continued)				
1,1,2-Trichloroethane	< 10	10	ug/l	
EPA 624 Prep: 08-Mar-2012 0900 by 301	Analyzed: 08-Mar-2012 1308 by 301		Batch: V7949	
Trichloroethylene	< 10	10	ug/l	
EPA 624 Prep: 08-Mar-2012 0900 by 301	Analyzed: 08-Mar-2012 1308 by 301		Batch: V7949	
Vinyl chloride	< 10	10	ug/l	
EPA 624 Prep: 08-Mar-2012 0900 by 301	Analyzed: 08-Mar-2012 1308 by 301		Batch: V7949	
Surrogate: 4-Bromofluorobenzene (75.0-120%)	104		%	
EPA 624 Prep: 08-Mar-2012 0900 by 301	Analyzed: 08-Mar-2012 1308 by 301		Batch: V7949	
Surrogate: Dibromofluoromethane (85.0-115%)	93.7		%	
EPA 624 Prep: 08-Mar-2012 0900 by 301	Analyzed: 08-Mar-2012 1308 by 301		Batch: V7949	
Surrogate: Toluene-D8 (85.0-120%)	98.3		%	
EPA 624 Prep: 08-Mar-2012 0900 by 301	Analyzed: 08-Mar-2012 1308 by 301		Batch: V7949	
Organochlorine Pesticides and PCBs By EPA 608				
Aldrin	< 0.10	0.10	ug/l	D
EPA 608 Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
alpha-BHC	< 0.50	0.50	ug/l	D
EPA 608 Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
alpha-Endosulfan	< 0.10	0.10	ug/l	D
EPA 608 Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
beta-BHC	< 0.50	0.50	ug/l	D
EPA 608 Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
beta-Endosulfan	< 0.20	0.20	ug/l	D
EPA 608 Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
Chlordane	< 2.0	2.0	ug/l	D
EPA 608 Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
Chlorpyrifos	< 0.70	0.70	ug/l	D
EPA 608 Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
4,4'-DDD	< 1.0	1.0	ug/l	D
EPA 608 Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
4,4'-DDE	< 1.0	1.0	ug/l	D
EPA 608 Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
4,4'-DDT	< 0.20	0.20	ug/l	D
EPA 608 Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
delta-BHC	< 0.50	0.50	ug/l	D
EPA 608 Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
Dieldrin	< 0.20	0.20	ug/l	D
EPA 608 Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
Endosulfan sulfate	< 1.0	1.0	ug/l	D
EPA 608 Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10

Hino Motors Manufacturing USA, Inc.
100 Hino Boulevard
Marion, AR 72364

ANALYTICAL RESULTS

AIC No. 155864-1 (Continued)

Sample Identification: WWT Discharger 3-7-2012 0900

Analyte	Result	RL	Units	Qualifier
Organochlorine Pesticides and PCBs By EPA 608 (Continued)				
Endrin EPA 608	< 0.20	0.20	ug/l	D
Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
Endrin aldehyde EPA 608	< 1.0	1.0	ug/l	D
Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
gamma-BHC EPA 608	< 0.50	0.50	ug/l	D
Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
Heptachlor EPA 608	< 0.10	0.10	ug/l	D
Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
Heptachlor epoxide EPA 608	< 0.10	0.10	ug/l	D
Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
PCB 1016 EPA 608	< 2.0	2.0	ug/l	D
Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
PCB 1221 EPA 608	< 2.0	2.0	ug/l	D
Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
PCB 1232 EPA 608	< 2.0	2.0	ug/l	D
Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
PCB 1242 EPA 608	< 2.0	2.0	ug/l	D
Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
PCB 1248 EPA 608	< 2.0	2.0	ug/l	D
Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
PCB 1254 EPA 608	< 2.0	2.0	ug/l	D
Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
PCB 1260 EPA 608	< 2.0	2.0	ug/l	D
Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
Toxaphene EPA 608	< 3.0	3.0	ug/l	D
Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
Surrogate: Decachlorobiphenyl (Diluted Out) EPA 608	-			D
Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10
Surrogate: Tetrachloro-m-xylene (Diluted Out) EPA 608	-			D
Prep: 12-Mar-2012 1109 by 290	Analyzed: 13-Mar-2012 1428 by 301		Batch: G8831	Dil: 10

Hino Motors Manufacturing USA, Inc.
100 Hino Boulevard
Marion, AR 72364

DUPLICATE RESULTS

Analyte	AIC No.	Result	RPD	RPD Limit	Preparation Date	Analysis Date	DII	Qual
pH	155835-1	7.1 Units				07Mar12 1624 by 302		H
	Batch: W39153	Duplicate	0.282	5.00		07Mar12 1624 by 302		
Total Suspended Solids	155858-1	< 4 mg/l			09Mar12 1321 by 285	12Mar12 0827 by 285		
	Batch: W39178	Duplicate	0.00	20.0	09Mar12 1321 by 285	12Mar12 0827 by 285		
Total Suspended Solids	155859-1	< 4 mg/l			09Mar12 1321 by 285	12Mar12 0827 by 285		
	Batch: W39178	Duplicate	0.00	20.0	09Mar12 1321 by 285	12Mar12 0827 by 285		
Cyanides Amenable to Chlorination	155864-1	< 0.01 mg/l			14Mar12 1010 by 302	15Mar12 1358 by 302		
	Batch: W39221	Duplicate	0.00		14Mar12 1010 by 302	15Mar12 1400 by 302		
Volatile Organic Compounds								
Acrolein	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
Acrylonitrile	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
Benzene	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
Bromodichloromethane	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
Bromoform	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
Bromomethane	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
Carbon tetrachloride	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
Chlorobenzene	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
Chloroethane	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
2-Chloroethyl vinyl ether	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	20.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
Chloroform	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
Chloromethane	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
Dibromochloromethane	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
1,2-Dichlorobenzene	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
1,3-Dichlorobenzene	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
1,4-Dichlorobenzene	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
1,1-Dichloroethane	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
1,2-Dichloroethane	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D
trans-1,2-Dichloroethene	155822-1	< 0.50 mg/l			08Mar12 0900 by 301	08Mar12 1220 by 301	100	D
	Batch: V7949	Duplicate	0.00	30.0	08Mar12 0900 by 301	08Mar12 1244 by 301	100	D

**Pretreatment
Chemical
(MSDS)
for
NAPS
(Side Rail)**

MATERIAL SAFETY DATA SHEET

PRIMER 40

Page: 1

PRODUCT NAME: PRIMER 40
PRODUCT CODE: PRI-40 USA

HMS CODES: H F R P
3 0 0 J

SECTION I - SUPPLIER IDENTIFICATION

SUPPLIER'S NAME: NPA Coatings, Inc.

ADDRESS : (ELECTROCOAT / PRETREATMENT GROUP)
11110 Berea Road
Cleveland, Ohio 44102

EMERGENCY PHONE : 800-424-9300 CHEMTR DATE PRINTED : 12/12/06

APPROVED BY : _____

INFORMATION PHONE : 216-651-5900

SECTION II - HAZARDOUS INGREDIENTS/SARA III INFORMATION

WEIGHT	VAPOR	PRESSURE
REPORTABLE COMPONENTS	CAS NUMBER mm Hg @ TEMP	PERCENT
TAP WATER	N/A N/A	BAL.
SODIUM HYDROXIDE	1310-73-2 N/A N/A	10% TO 20%
OSHA PEL 2MG/M3		
ACGIH TLV 2MG/M3		

*** No toxic chemical(s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372 are present. ***

All components of this material are on the US TSCA Inventory.

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING RANGE: 212 F - 282 F

SPECIFIC GRAVITY (H2O=1): 1.11

VAPOR DENSITY: N/A

EVAPORATION RATE: 1

COATING V. O. C. : N/A

MATERIAL V. O. C. : PERCENT VOLATILE BY



Safety Data Sheet

1 PRODUCT AND COMPANY IDENTIFICATION

Product name: SURFDINE EX9201 SN
 Intended use: surface treatment agent
 Manufacture:
 Company name: NIPPON PAINT CO.,LTD.
 Address: 4-1-15 Minami-shinagawa,Shinagawa-ku,Tokyo 140-8675
 Telephone No.: +81-3-3740-1528
 Facsimile No.: +81-3-3740-1129
 24 hours Emergency telephone No.: +81-3-3740-1528

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance or Preparation:Preparation.

Chemical nature:alkaline solution

Ingredient Name	CAS No.	Concentration[%]
water	7732-18-5	90-95
3-aminopropyltriethoxysilane	919-30-2	10-15

Notes:*,+,@=Carcinogenic according to criteria established by (*=NTP +=IARC @=OSHA)

#=ingredient subject to the reporting requirements of the Superfund Amendments and Reauthorization act (SARA) section 313,40 CFR 372.65.

\$=Significant New Uses of Chemical Substances (SNUR). section 721, Subpart E--Significant New Uses for Specific Chemical Substances.

3 HAZARDS IDENTIFICATION

classification	most important hazard
corrosive.	Cause burns.

4 FIRST-AID MEASURES

Inhalation: If inhaled, remove to fresh air.
 Skin contact: In case of contact, immediately wash skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes.
 Get medical attention immediately.
 Eye contact: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes.
 Ingestion: If swallowed, do NOT induce vomiting unless directed to do so by medical personnel.
 Get medical attention immediately.

MATERIAL SAFETY DATA SHEET

SURFCLEANER S102

Page: 1

PRODUCT NAME: SURFCLEANER S102
 PRODUCT CODE: S102

HMS CODES: H P R P
 2 0 1 C

SECTION I - SUPPLIER IDENTIFICATION

SUPPLIER'S NAME: NPA Coatings, Inc.
 ADDRESS : (ELECTROCOAT / PRETREATMENT GROUP)
 11110 Berea Road
 Cleveland, Ohio 44102
 EMERGENCY PHONE : 800-424-9300 CHEMTR DATE PRINTED : 10/01/04
 APPROVED BY : _____
 INFORMATION PHONE : 216-651-5900

SECTION II - HAZARDOUS INGREDIENTS/SARA III INFORMATION

VAPOR PRESSURE

WEIGHT REPORTABLE COMPONENTS PERCENT	CAS NUMBER	mm Hg @ TEMP	
SODIUM BICARBONATE NOT ESTABLISHED	144-55-8 *	N/A N/A	50% TO 60%
TRISODIUM PHOSPHATE NOT ESTABLISHED	7601-54-9 *	N/A N/A	10% TO 20%
* SODIUM NITRITE NOT ESTABLISHED	7632-00-0 *	N/A N/A	10% TO 20%
DISODIUM PHOSPHATE NOT ESTABLISHED	7558-79-4 *	N/A N/A	1% TO 5%
TETRASODIUM PYROPHOSPHATE ACGIH TLV 5MG/M3 OSHA PEL 5MG/M3	7722-88-5 *	N/A N/A	1% TO 5%
NON-HAZARDOUS MATERIALS NOT ESTABLISHED	N/A	N/A N/A	1% TO 5%

* Indicates toxic chemical(s) subject to the reporting requirements of section 313 of Title III and of 40 CFR 372.
 All components of this material are on the US TSCA Inventory.

SECTION III - PHYSICAL/CHEMICAL CHARACTERISTICS

BOILING RANGE: N/E
 VAPOR DENSITY: N/A
 COATING V.O.C.: N/A
 SOLUBILITY IN WATER: Appreciable
 APPEARANCE AND ODOR: White to yellowish white powder; mild odor
 SPECIFIC GRAVITY (H2O=1): 0.01
 EVAPORATION RATE: N/A
 MATERIAL V.O.C.: N/A
 pH: 10-11

SECTION IV - FIRE AND EXPLOSION HAZARD DATA

FLASH POINT: N/A
 FLAMMABLE LIMITS IN AIR BY VOLUME- LOWER: N/A UPPER: N/A
 METHOD USED: N/A
 EXTINGUISHING MEDIA: Use media suitable for surrounding materials.

SPECIAL FIREFIGHTING PROCEDURES



Version Date: December 18 2003

NIPPON PAINT CO.,LTD.

ZAD-001-0217-01US

SURFDINE EX9201 R-1

Safety Data Sheet

H - P - R
2-0-0

1 PRODUCT AND COMPANY IDENTIFICATION

Product name: SURFDINE EX9201 R-1
 Intended use: surface treatment agent
 Importer:
 Company name: Nippon Paint (America) Corp. [Division of Nippon Paint (USA) Inc.]
 Address: Glenpointe Center West, 500 Frank W. Burr Blvd., Teaneck, New Jersey 07666-6895, U.S.A.
 Telephone No.: United States:(201)692-1111
 24 hours Emergency telephone No.: United States:(800)424-9300(CHEMTREC) 24 hours
 EverydayInternational: +1-(703)527-3887(Collect) 24 hours Everyday

Manufacture:
 Company name: NIPPON PAINT CO.,LTD.
 Address: 4-1-15 Minami-shinagawa,Shinagawa-ku,Tokyo 140-8675
 Telephone No.: +81-3-3740-1528
 Facsimile No.: +81-3-3740-1129
 24 hours Emergency telephone No.: +81-3-3740-1528

2 COMPOSITION/INFORMATION ON INGREDIENTS

Substance or Preparation:Preparation.

Chemical nature:inorganic solution surface treatment chemicals

<u>Ingredient Name</u>	<u>CAS No.</u>	<u>Concentration[%]</u>
water	7732-18-5	90-95
zinc nitrate	7779-88-6	1-5
magnesium nitrate	10377-60-3	1-5
dihydrogen hexafluorozirconate(2+)	12021-95-3	1-5

Notes:*,+,@=Carcinogenic according to criteria established by (*=NTP +=IARC @=OSHA)

#=ingredient subject to the reporting requirements of the Superfund Amendments and Reauthorization act (SARA) section 313,40 CFR 372.65.

\$=Significant New Uses of Chemical Substances (SNUR). section 721, Subpart E--Significant New Uses for Specific Chemical Substances.

3 HAZARDS IDENTIFICATION

classification	most important hazard
corrosive.	Cause burns.

4 FIRST-AID MEASURES

**Pretreatment
Chemical
(MSDS)
for
E.D. Paint
(180L)
(193A)
(200L)**

MATERIAL SAFETY DATA SHEET



SECTION 1 - PRODUCT AND COMPANY INFORMATION

PPG Kansai Automotive Finishes (PKAF)
5875 New King Court
Troy, MI 48068

EMERGENCY PHONE NUMBERS (412) 434-4515 (U.S.)
(24 hours/day):

(614) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
0632-3889090 (China)

TECHNICAL INFORMATION: 1-800-245-2590 (CLEVELAND, OH) 8:00 a.m. - 5:00 p.m. EST
PRODUCT SAFETY/MSDS INFORMATION: (412) 492-5555 7:00 a.m. - 4:30 p.m. EST

Product ID: E6279 (0800)
PRODUCT NAME: ED-860 IONIC RESIN
SYNONYMS: None
ISSUE DATE: 07/08/2005
EDITION NO.: 1
CHEMICAL FAMILY: Epoxy

EMERGENCY OVERVIEW:

CAUSES EYE IRRITATION. MAY CAUSE MODERATE SKIN IRRITATION. VAPOR AND/OR SPRAY MIST MAY BE HARMFUL IF INHALED. MAY CAUSE IRRITATION AND/OR ALLERGIC RESPIRATORY REACTION IN LUNGS. HARMFUL IF SWALLOWED. This product is not expected to present any unusual hazards under fire or spill conditions. Read entire MSDS before use.

SECTION 2 - COMPOSITION INFORMATION

The following ingredient(s) marked with an "x" are considered hazardous under applicable U.S. OSHA and/or Canadian WHMIS regulations. If no ingredients are listed, then there are no U.S. OSHA and/or Canadian WHMIS hazardous ingredients in this product.

Material CAS Number	Percent	Hazardous
PLASTICIZER 143-29-3	1-5	X
ROSIN 8050-09-7	0.1-1.0	X

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT:

Causes eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact.

SKIN CONTACT:

May cause moderate skin irritation. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

SKIN ABSORPTION:

Skin absorption not expected to occur.

INHALATION:

Vapor and/or spray mist may be harmful if inhaled. May cause irritation and/or allergic respiratory reaction in lungs.

INGESTION:

Harmful if swallowed.

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact.

Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.

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.

EYE CONTACT:

Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. If irritation persists, contact a poison control center, emergency room, or physician as further treatment may be necessary.

SKIN CONTACT:

Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. If any symptoms persist, contact a poison control center, emergency room, or physician as further treatment may be necessary.

INHALATION:

Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION:

Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be necessary.

SECTION 5 - FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES

FLASHPOINT: 225 Degrees F (107 Degrees C)

FLASHPOINT TEST METHOD:

Pensky-Martens Closed Cup

UEL: Not Available.

LEL: Not Available.

AUTOIGNITION TEMPERATURE:

Not Available.

EXTINGUISHING MEDIA:

Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical or universal aqueous film forming foam) designed to extinguish NFPA Class IIIB combustible liquid fires.

ED part

MATERIAL SAFETY DATA SHEET



SECTION 1 - PRODUCT AND COMPANY INFORMATION

PPG Industries, Inc.
One PPG Place
Pittsburgh, PA 15272

EMERGENCY PHONE NUMBERS (412) 434-4515 (U.S.)
(24 hours/day):

(514) 645-1320 (Canada)
01-800-00-21-400 (Mexico)
0532-3889090 (China)

TECHNICAL INFORMATION: 1-800-245-2590 (CLEVELAND, OH) 8:00 a.m. - 5:00 p.m. EST
PRODUCT SAFETY/MSDS INFORMATION: (412) 492-5555 7:00 a.m. - 4:30 p.m. EST
PRODUCT ID:
PRODUCT NAME: EPOXY CATIONIC BEACK PA
SYNONYMS: None
ISSUE DATE: 07/29/2004
EDITION NO.: 1
CHEMICAL FAMILY: Epoxy

SIGNS & SYMPTOMS OF OVEREXPOSURE:

Repeated exposure to high vapor concentrations may cause irritation of the respiratory system and permanent brain and nervous system damage. Eye watering, headaches, nausea, dizziness and loss of coordination are indications that solvent levels are too high. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact.

MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE: Not applicable.

CHRONIC OVEREXPOSURE EFFECTS

Avoid long-term and repeated contact. Repeated exposure to vapors above recommended exposure limits (see Section 8) may cause irritation of the respiratory system and permanent brain and nervous system damage. Intentional misuse by deliberately concentrating and inhaling the contents can be harmful or fatal. The effects of long-term, low level exposures to this product have not been determined. Safe handling of this material on a long-term basis should emphasize the prevention of all contact with this material to avoid any effects from repetitive acute exposures. See Section 11, of this MSDS for a detailed list of chronic health effects information available on individual ingredients in this product.

EMERGENCY OVERVIEW:
CAUSES SEVERE EYE IRRITATION. MAY CAUSE SKIN BURNS. VAPOR AND/OR SPRAY MIST MAY BE HARMFUL IF INHALED. HARMFUL OR FATAL IF SWALLOWED. This product is not expected to present any unusual hazards under fire or spill conditions. Read entire MSDS before use.

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. EYE CONTACT: Remove contact lens and pour a gentle stream of warm water through the affected eye for at least 15 minutes. Contact a poison control center, emergency room or physician right away as further treatment will be necessary.

SKIN CONTACT: Run a gentle stream of water over the affected area for 15 minutes. A mild soap may be used if available. Contact a poison control center, emergency room or physician right away as further treatment will be necessary. INHALATION: Remove from area to fresh air. If symptomatic, contact a poison control center, emergency room or physician for treatment information.

INGESTION: Gently wipe or rinse the inside of the mouth with water. Sips of water may be given. Never give anything by mouth to an unconscious person. Contact a poison control center, emergency room or physician right away as further treatment may be necessary.

SECTION 2 - COMPOSITION INFORMATION

The following ingredient(s) marked with an "x" are considered hazardous under applicable U.S. OSHA and/or Canadian WHMIS regulations. If no ingredients are listed, then there are no U.S. OSHA and/or Canadian WHMIS hazardous ingredients in this product.

Table with 4 columns: Material/CAS Number, Percent, Hazardous, and additional info. Rows include ALUMINUM SILICATE, DIBUTYL TIN OXIDE, CARBON BLACK, PLASTICIZER, (As Nuisance Particulates), and (As organic Tin Compds).

SECTION 3 - HAZARDS IDENTIFICATION

ACUTE OVEREXPOSURE EFFECTS

EYE CONTACT: Causes severe eye irritation. Redness, itching, burning sensation and visual disturbances may indicate excessive eye contact. SKIN CONTACT: May cause skin burns. Dryness, itching, cracking, burning, redness, and swelling are conditions associated with excessive skin contact. SKIN ABSORPTION: INHALATION: Vapor and/or spray mist may be harmful if inhaled. INGESTION: Harmful or fatal if swallowed.

SECTION 5 - FIRE FIGHTING MEASURES

FLAMMABLE PROPERTIES
FLASHPOINT: 210 Degrees F (99 Degrees C)
FLASHPOINT TEST METHOD: Pensky-Martens Closed Cup
UEL: Not Available.
LEL: Not Available.
AUTOIGNITION TEMPERATURE: Not Available.
EXTINGUISHING MEDIA: Use National Fire Protection Association (NFPA) Class B extinguishers (carbon dioxide, dry chemical or universal aqueous film forming foam) designed to extinguish NFPA Class IIIB combustible liquid fires.

Material Safety Data Sheet

Material Name: ADDITIVE 110

ID: 231908

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name ADDITIVE 110

Manufacturer Information

Henkel Surface Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7631-99-4	Sodium nitrate	30-60

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER—OXIDIZER This product may cause eye and skin irritation. This product may cause methemoglobinemia characterized by a reduction in oxygen carrying capacity of the blood with symptoms including headache, dizziness, flushed face, fatigue, nausea, vomiting, drowsiness, stupor, tremors, uneven heart action, coma and rarely death.

Eye Contact:

This product may cause irritation to the eyes.

Skin Contact:

This product may cause irritation to the skin.

Skin Absorption:

This material may be absorbed through the skin, especially if skin is damaged.

Ingestion:

May cause temporary irritation of the throat, stomach, and gastrointestinal tract. This product may cause methemoglobinemia characterized by a reduction in oxygen carrying capacity of the blood with symptoms including headache, dizziness, flushed face, fatigue, nausea, vomiting, drowsiness, stupor, tremors, uneven heart action, coma and rarely death.

Inhalation:

This product may cause irritation to the respiratory system.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders. Preexisting cardiovascular or bone marrow diseases.

*** Section 4 - First Aid Measures ***

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes. If irritation persists get medical attention.

Skin Contact:

For skin contact, flush with large amounts of water. If irritation persists, get medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

If cyanosis is severe, intravenous injection of methylene blue, 1 mg/kg body weight, may be of value.

Material Safety Data Sheet

Material Name: BUFFER SOLUTION 420 MTO

ID: 205472

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name BUFFER SOLUTION 420 MTO

Manufacturer Information

Henkel Surface Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
127-09-3	Sodium acetate	<1
64-19-7	Acetic acid	<1

*** Section 3 - Hazards Identification ***

Emergency Overview:

CAUTION! This product may cause eye and skin irritation.

Eye Contact:

This product may be severely irritating to the eyes.

Skin Contact:

Prolonged and/or repeated skin contact may result in mild irritation or redness.

Skin Absorption:

None expected.

Ingestion:

May cause temporary irritation of the throat, stomach, and gastrointestinal tract.

Inhalation:

This product may cause irritation to the respiratory system.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact:

For skin contact, flush with large amounts of water. If irritation persists, get medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

No additional information available.

*** Section 5 - Fire Fighting Measures ***

Flash Point: > 212 °F

Method Used: Calculated

Flammability Classification: Non-flammable

Upper Flammable Limit (UFL): Not applicable

Lower Flammable Limit (LFL): Not applicable

Material Safety Data Sheet

Material Name: INDICATOR 40 MTO

ID: 205473

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name INDICATOR 40 MTO

Manufacturer Information

Henkel Surface Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
3618-43-7	Glycine, N,N'-[3H-2,1-benzoxathiol-3-ylidenebis[(6-hydroxy-5-methyl-3,1-phenylene)methylene]]bis[N-(carboxymethyl)-, S,S-dioxide, tetrasodium salt	<1

*** Section 3 - Hazards Identification ***

Emergency Overview:

WARNING! This product may be irritating to the eyes, skin, and respiratory system. This product may be harmful if it is swallowed. This product may be harmful if it is absorbed through the skin. Harmful if inhaled.

Eye Contact:

This product may cause irritation to the eyes.

Skin Contact:

This product may cause irritation to the skin.

Skin Absorption:

Product contains components which may be absorbed through the skin.

Ingestion:

No information available, but product should be handled as a potential hazard.

Inhalation:

No information is available, but the product should be handled as a potential hazard.

Potential Health Effects:

No information available for the product.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention at once.

Skin Contact:

For skin contact, wash immediately with soap and water. If irritation persists, get medical attention.

Ingestion:

If ingested, get immediate medical attention. Do not induce vomiting unless instructed to do so by medical personnel. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If symptoms are experienced, remove source of contamination or move victim to fresh air. Call a physician if symptoms develop or persist.

First Aid: Notes to Physician

No additional information available.

Material Safety Data Sheet

Material Name: ACCELERATOR 130

ID: 230001

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name ACCELERATOR 130

Manufacturer Information

Henkel Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7632-00-0	Sodium nitrite	100

*** Section 3 - Hazards Identification ***

Emergency Overview:

WARNING! OXIDIZER! HARMFUL OR FATAL IF SWALLOWED.

This product may be severely irritating to the eyes. This product may cause irritation to the skin. This product may cause methemoglobinemia characterized by a reduction in oxygen carrying capacity of the blood with symptoms including headache, dizziness, flushed face, fatigue, nausea, vomiting, drowsiness, stupor, tremors, uneven heart action, coma and rarely death.

Eye Contact:

This product may be severely irritating to the eyes.

Skin Contact:

This product may cause irritation to the skin.

Skin Absorption:

None expected.

Ingestion:

This product is harmful if swallowed. Ingestion can cause gastrointestinal irritation, nausea, vomiting and diarrhea. This product may cause methemoglobinemia characterized by a reduction in oxygen carrying capacity of the blood with symptoms including headache, dizziness, flushed face, fatigue, nausea, vomiting, drowsiness, stupor, tremors, uneven heart action, coma and rarely death.

Inhalation:

This product is harmful by inhalation and if it is swallowed. Dusts of this product may cause irritation of the nose, throat, and respiratory tract.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders. Preexisting cardiovascular or bone marrow diseases. Disorders of the blood.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. If irritation persists get medical attention.

Skin Contact:

For skin contact, wash immediately with soap and water. If irritation persists, get medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting.

Inhalation:

If inhaled, immediately remove the affected person to fresh air. If symptoms persist, get medical attention.

Material Safety Data Sheet

Material Name: ACCELERATOR 131

ID: 230220

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name ACCELERATOR 131

Manufacturer Information

Henkel Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7632-00-0	Sodium nitrite	40

*** Section 3 - Hazards Identification ***

Emergency Overview:

WARNING! HARMFUL OR FATAL IF SWALLOWED. This product may cause methemoglobinemia characterized by a reduction in oxygen carrying capacity of the blood with symptoms including headache, dizziness, flushed face, fatigue, nausea, vomiting, drowsiness, stupor, tremors, uneven heart action, coma and rarely death. This product may cause eye and skin irritation.

Eye Contact:

This product may cause irritation to the eyes.

Skin Contact:

This product may cause irritation to the skin. This product may discolor the skin.

Skin Absorption:

A component in this product may be absorbed through the skin in harmful amounts.

Ingestion:

This product may be harmful or fatal if swallowed. This product may cause methemoglobinemia characterized by a reduction in oxygen carrying capacity of the blood with symptoms including headache, dizziness, flushed face, fatigue, nausea, vomiting, drowsiness, stupor, tremors, uneven heart action, coma and rarely death.

Inhalation:

This product may be harmful by inhalation. This product may cause irritation to the respiratory system.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders. Preexisting cardiovascular or bone marrow diseases.

*** Section 4 - First Aid Measures ***

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention or advice.

Skin Contact:

Immediately take off all contaminated clothing. For skin contact, wash immediately with soap and water. Call a physician if symptoms develop or persist.

Ingestion:

If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

Provide general supportive measures and treat symptomatically. If cyanosis is severe, intravenous injection of methylene blue, 1 mg/kg body weight, may be of value.

Material Safety Data Sheet

Material Name: ADDITIVE 100

ID: 231776

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name ADDITIVE 100

Manufacturer Information

Henkel Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
16961-83-4	Hydrofluosilicic acid	10-30
7664-39-3	Hydrofluoric acid	1-10

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following:
Fluorosilicates, n.o.s., Fluorides.

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER – CORROSIVE! Contact with this material will cause burns to the skin, eyes and mucous membranes.

Eye Contact:

This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:

Corrosive to the skin. Contact with the skin or mucous membranes may cause severe irritation and burns. Liquid or vapor can cause fluoride-type irritation or burns which may not be immediately painful or visible. Following skin exposure to this product, the sensation of irritation or pain may be delayed.

Skin Absorption:

Hydrofluoric acid will penetrate the skin and attack underlying tissue and bone. Large burns (over 25 square inches) may also cause hypocalcemia and other systemic effects which may be fatal.

Ingestion:

This product may produce corrosive damage to the gastrointestinal tract if it is swallowed. Ingestion of small amounts of this product may result in potentially fatal hypocalcemia and systemic toxicity. Ingestion of large amounts of this product may result in fluoride poisoning including symptoms of calcification of the ligaments and severe bone changes making normal movements painful, mottling of the teeth, pulmonary fibrosis, anemia, anorexia, dental effects, and possibly death.

Inhalation:

Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract. Inhalation of mists or vapors may produce upper airway edema, wheezing, pulmonary edema, pneumonitis and respiratory failure. The repeated breathing of this material for years may cause fluorosis.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:

Immediately take off all contaminated clothing. Flush with large amounts of water. Soak the affected area for one hour in an iced solution (0.13%) of Zephiran chloride (30 cc of 17% concentrate per gallon of iced distilled water.) GET MEDICAL ATTENTION IMMEDIATELY.

Material Safety Data Sheet

Material Name: FIXODINE® X

ID: 237951

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name FIXODINE® X

Manufacturer Information

Henkel Surface Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7779-90-0	Trizinc diphosphate	10-30
9004-32-4	Sodium carboxymethyl cellulose	1-10

*** Section 3 - Hazards Identification ***

Emergency Overview:

CAUTION! This product may be irritating to the eyes, skin, and respiratory system. This product contains trace levels of a compound(s) which may cause allergic skin sensitization reactions.

Eye Contact:

This product is irritating to the eyes.

Skin Contact:

This product may cause irritation to the skin. This product may cause an allergic skin reaction.

Skin Absorption:

None expected.

Ingestion:

Ingestion of this product is unlikely. However, ingestion of product may produce gastrointestinal irritation and disturbances.

Inhalation:

This product may cause irritation to the respiratory system.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact, immediately flush eyes with large amounts of water, continuing to flush for 15 minutes. If irritation persists get medical attention.

Skin Contact:

For skin contact, wash immediately with soap and water. If irritation persists, get medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting.

Inhalation:

If inhaled, immediately remove the affected person to fresh air. Call a physician if symptoms develop or persist.

First Aid: Notes to Physician

No additional information available.

*** Section 5 - Fire Fighting Measures ***

Material Safety Data Sheet

Material Name: FIXODINE ADDITIVE 6

ID: 237926

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name FIXODINE ADDITIVE 6

Manufacturer Information

Henkel Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7778-53-2	Tripotassium phosphate	30-60
7320-34-5	Tetrapotassium pyrophosphate	10-30

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER – CORROSIVE! Contact with this material will cause burns to the skin, eyes and mucous membranes.

Eye Contact:

This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:

Corrosive to the skin. Contact with the skin or mucous membranes may cause severe irritation and burns.

Ingestion:

This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Inhalation:

Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact:

For skin contact, flush with large amounts of water. Seek immediate medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

Provide general supportive measures and treat symptomatically.

*** Section 5 - Fire Fighting Measures ***

Flash Point: >212°F (>100 °C)

Method Used: Calculated

Flammability Classification: Non-flammable

Upper Flammable Limit (UFL): Not applicable

Lower Flammable Limit (LFL): Not applicable

Material Safety Data Sheet

Material Name: FIXODINE ADDITIVE 2

ID: 237925

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name FIXODINE ADDITIVE 2

Manufacturer Information

Henkel Surface Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
1310-58-3	Potassium hydroxide	10-30

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER! Contact with this material will cause burns to the skin, eyes and mucous membranes.

Eye Contact:

This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:

Corrosive to the skin. Contact with the skin or mucous membranes may cause severe irritation and burns.

Skin Absorption:

A component in this product may be harmful if absorbed through the skin, especially if skin is damaged.

Ingestion:

This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Inhalation:

Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:

Immediately take off all contaminated clothing. For skin contact, flush with large amounts of water. Seek immediate medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

Provide general supportive measures and treat symptomatically.

*** Section 5 - Fire Fighting Measures ***

Material Safety Data Sheet

Material Name: DEOXIDINE® 2520

ID: 237759

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name DEOXIDINE® 2520

Manufacturer Information

Henkel Surface Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7697-37-2	Nitric acid	1-10

Additional Information:

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER – CORROSIVE! Inhalation of vapors may cause moderate to severe respiratory tract irritation. Contact with this material will cause burns to the skin, eyes and mucous membranes.

Eye Contact:

This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:

Contact with liquid may produce severe skin irritation including redness, inflammation and chemical burns.

Skin Absorption:

None expected.

Ingestion:

This product may produce corrosive damage to the gastrointestinal tract if it is swallowed. Ingestion of corrosive acids may result in moderately severe burns to mouth and esophagus with more severe burns and damage to the stomach.

Inhalation:

Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract. Inhalation of vapors may cause moderate to severe respiratory tract irritation. This product can be harmful by inhalation.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:

Immediately take off all contaminated clothing. For skin contact, flush with large amounts of water. Seek immediate medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

Material Safety Data Sheet

Material Name: RIDOLINE® 422E

ID: 234223

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name RIDOLINE® 422E

Manufacturer Information

Henkel Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
1310-73-2	Sodium hydroxide	30-60

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER – CORROSIVE! Contact with this material will cause burns to the skin, eyes and mucous membranes.

Eye Contact:

This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:

Corrosive to the skin. Contact with the skin or mucous membranes may cause severe irritation and burns.

Skin Absorption:

None expected.

Ingestion:

This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Inhalation:

Inhalation of dusts of this product may cause severe irritation and burns to the respiratory tract.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:

Immediately take off all contaminated clothing. For skin contact, flush with large amounts of water. Seek immediate medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

No additional information available.

*** Section 5 - Fire Fighting Measures ***

Material Safety Data Sheet

Material Name: PARCO® CLEANER 4480

ID: 231950

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name PARCO® CLEANER 4480

Manufacturer Information

Henkel Surface Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
497-19-8	Sodium carbonate	30-60
Proprietary	Surfactant	10-30
7758-29-4	Trisodium Phosphate	10-30
7632-00-0	Sodium nitrite	1-10
7722-88-5	Tetrasodium pyrophosphate	1-10
6834-92-0	Sodium metasilicate	1-10

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER -- CORROSIVE! This product is harmful if swallowed. Harmful if inhaled. Contact with this product may cause severe eye damage.

Eye Contact:

This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:

This product is severely irritating to the skin and may cause burns.

Skin Absorption:

None expected.

Ingestion:

This product is harmful if swallowed. This product may cause methemoglobinemia characterized by a reduction in oxygen carrying capacity of the blood with symptoms including headache, dizziness, flushed face, fatigue, nausea, vomiting, drowsiness, stupor, tremors, uneven heart action, coma and rarely death.

Inhalation:

Harmful if inhaled. May produce blood effects (methemoglobinemia and anemia) reducing the blood's ability to transport oxygen. Inhalation of dusts of this product may cause severe irritation and burns to the respiratory tract.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders. Preexisting cardiovascular or bone marrow diseases.

*** Section 4 - First Aid Measures ***

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention or advice.

Skin Contact:

Immediately take off all contaminated clothing. For skin contact, wash immediately with soap and water. Call a physician if symptoms develop or persist.

Ingestion:

If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If inhaled, immediately remove the affected person to fresh air. Call a physician if symptoms develop or persist.

Material Safety Data Sheet

Material Name: NEUTRALIZER 500

ID: 231909

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name NEUTRALIZER 500

Manufacturer Information

Henkel Surface Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
1310-73-2	Sodium hydroxide	10-30

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER – CORROSIVE! Contact with this material will cause burns to the skin, eyes and mucous membranes.

Eye Contact:

This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:

Corrosive to the skin. Contact with the skin or mucous membranes may cause severe irritation and burns.

Skin Absorption:

None expected.

Ingestion:

This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Inhalation:

Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:

Immediately take off all contaminated clothing. For skin contact, flush with large amounts of water. Seek immediate medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If inhaled, immediately remove the affected person to fresh air. Call a physician if symptoms develop or persist.

First Aid: Notes to Physician

No additional information available.

*** Section 5 - Fire Fighting Measures ***

Material Safety Data Sheet

Material Name: INDICATOR 3

ID: 205003

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name INDICATOR 3

Manufacturer Information

Henkel Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
67-63-0	Isopropyl alcohol	30-60
77-09-8	Phenolphthalein	1-10

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER! FLAMMABLE! This product is harmful by inhalation. Inhalation of vapors or mists of the product may be irritating to the respiratory system.

Eye Contact:

This product may be severely irritating to the eyes.

Skin Contact:

Prolonged and/or repeated skin contact with this product may cause irritation/dermatitis.

Ingestion:

Small amounts of this product, if aspirated into the lungs, may cause mild to severe pulmonary injury. This product may be harmful or fatal if swallowed.

Inhalation:

This product may cause irritation to the respiratory system. Excessive inhalation of this material causes headache, dizziness, nausea and incoordination.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:

Immediately take off all contaminated clothing. If irritation persists, get medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

This material, if aspirated into the lungs, may cause lipid pneumonitis. Treat affected person appropriately.

*** Section 5 - Fire Fighting Measures ***

Material Safety Data Sheet

Material Name: INDICATOR 11

ID: 205011

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name INDICATOR 11

Manufacturer Information

Henkel Surface Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7732-18-5	Water	99-100
115-39-9	Bromphenol blue	0.04
1310-73-2	Sodium hydroxide	0.02

*** Section 3 - Hazards Identification ***

Emergency Overview:

CAUTION!

Eye Contact:

None expected.

Skin Contact:

None expected.

Skin Absorption:

None expected.

Ingestion:

None expected.

Inhalation:

None expected.

Medical Conditions Aggravated by Exposure:

None expected.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact:

For skin contact, flush with large amounts of water. If irritation persists, get medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

No additional information available.

*** Section 5 - Fire Fighting Measures ***

Material Safety Data Sheet

Material Name: REAGENT 137

ID: 205137

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name REAGENT 137

Manufacturer Information

Henkel Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
5329-14-6	Sulfamic acid	>95

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER – CORROSIVE! Powder. May cause severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system.

Eye Contact:

This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:

Corrosive to the skin. Contact with the skin or mucous membranes may cause severe irritation and burns.

Ingestion:

This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Inhalation:

Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:

Immediately take off all contaminated clothing. For skin contact, flush with large amounts of water. Seek immediate medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

Provide general supportive measures and treat symptomatically.

*** Section 5 - Fire Fighting Measures ***

Material Safety Data Sheet

Material Name: TITRATING SOLUTION 11

ID: 205211

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name TITRATING SOLUTION 11

Manufacturer Information

Henkel Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
1310-73-2	Sodium hydroxide	<1

*** Section 3 - Hazards Identification ***

Emergency Overview:

CAUTION! Contact with this material can cause irritation to the skin, eyes and mucous membranes.

Eye Contact:

This product may cause irritation to the eyes. This product may be severely irritating to the eyes.

Skin Contact:

This product may cause irritation to the skin. Prolonged or repeated contact may worsen irritation.

Ingestion:

This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Inhalation:

Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:

Immediately take off all contaminated clothing. For skin contact, flush with large amounts of water. Seek immediate medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

Provide general supportive measures and treat symptomatically.

*** Section 5 - Fire Fighting Measures ***

Flash Point: Not applicable

Method Used: Not applicable

Flammability Classification: Not applicable

Upper Flammable Limit (UFL): Not applicable

Lower Flammable Limit (LFL): Not applicable

Material Safety Data Sheet

Material Name: TITRATING SOLUTION 20

ID: 205220

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name TITRATING SOLUTION 20

Manufacturer Information

Henkel Surface Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7732-18-5	Water	99.5
7664-93-9	Sulfuric acid	0.5

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER – CORROSIVE! Contact with this material will cause burns to the skin, eyes and mucous membranes.

Eye Contact:

This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:

Corrosive to the skin. Contact with the skin or mucous membranes may cause severe irritation and burns.

Skin Absorption:

None expected.

Ingestion:

This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Inhalation:

Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:

Immediately take off all contaminated clothing. For skin contact, flush with large amounts of water. Seek immediate medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

No additional information available.

*** Section 5 - Fire Fighting Measures ***

Material Safety Data Sheet

Material Name: TITRATING SOLUTION 60

ID: 205260

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name TITRATING SOLUTION 60

Manufacturer Information

Henkel Surface Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7732-18-5	Water	96.36
7647-01-0	Hydrochloric acid	3.64

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER – CORROSIVE! May cause severe irritation or burns to the eyes, skin, gastrointestinal tract, and respiratory system.

Eye Contact:

This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:

This product is severely irritating to the skin and may cause burns.

Skin Absorption:

None expected.

Ingestion:

This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Inhalation:

Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract. Inhalation of mists or vapors may produce upper airway edema, wheezing, pulmonary edema, pneumonitis and respiratory failure.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:

Immediately take off all contaminated clothing. For skin contact, flush with large amounts of water. Seek immediate medical attention. Wash contaminated clothing before reuse.

Ingestion:

If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

No additional information available.

*** Section 5 - Fire Fighting Measures ***

Material Safety Data Sheet

Material Name: TITRATING SOLUTION 86

ID: 205286

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name TITRATING SOLUTION 86

Manufacturer Information

Henkel Surface Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
7732-18-5	Water	>99
64-02-8	Tetrasodium EDTA	<1

*** Section 3 - Hazards Identification ***

Emergency Overview:

CAUTION!

Eye Contact:

This product may cause slight irritation to the eyes.

Skin Contact:

None expected.

Skin Absorption:

None expected.

Ingestion:

Low toxicity.

Inhalation:

None expected.

Medical Conditions Aggravated by Exposure:

None expected.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

Skin Contact:

For skin contact, flush with large amounts of water. If irritation persists, get medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice – Do not induce vomiting.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

No additional information available.

*** Section 5 - Fire Fighting Measures ***

Flash Point: Not applicable

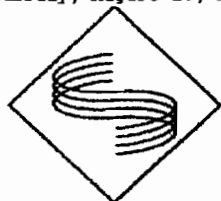
Method Used: Not applicable

Flammability Classification: Non-flammable

Upper Flammable Limit (UFL): Not applicable

Lower Flammable Limit (LFL): Not applicable

**Chemicals
Used
for
Waster Water
Treatment**



**Shrieve Chemical Company
Manufacturer's Safety Data Sheet**

CHEMTREC	800-424-9300
24-HOUR EMERGENCY ASSISTANCE	800-367-4226
SHRIEVE CHEMICAL COMPANY	800-367-4226
GENERAL MSDS ASSISTANCE	281-367-4226 ext.111
TECHNICAL MSDS ASSISTANCE	281-367-4226 ext.133

Page 1 of 5

CYTEC**MATERIAL SAFETY DATA**

MSDS No: 0243
Date: 07/01/97
Supersedes: 12/12/96

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**PRODUCT NAME:** Sulfuric Acid, 60 degree Be', 66 degree Be', 98-100%**SYNONYMS:** Sulfuric acid; oil of vitriol; sulfuric acid, 77%; electrolyte grade; codex food grade; 1.835 sulfuric acid; 93% sulfuric acid; 96% sulfuric acid**CHEMICAL FAMILY:** Inorganic acid**MOLECULAR FORMULA:** H₂SO₄**MOLECULAR WGT:** 98.00**CYTEC INDUSTRIES INC., FIVE GARRET MOUNTAIN PLAZA, WEST PATERSON, NEW JERSEY 07424, USA**

For Product Information call 1-800/652-6013. Outside the USA and Canada call 973/357-3193.

EMERGENCY PHONE: For emergency involving spill, leak, fire, exposure or accident call CHEMTREC: 1-800/424-9300. Outside the USA and Canada call 703/527-3887.**2. COMPOSITION/INFORMATION ON INGREDIENTS****OSHA REGULATED COMPONENTS**

COMPONENT	GAS. NO.	%	TWA/CEILING	REFERENCE
Sulfuric Acid	007664-93-9	~80-100	1 mg/M3 3 mg/M3 STEL	OSHA/ACGIH ACGIH

3. HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW****APPEARANCE AND ODOR:** Clear to slightly cloudy, oily liquid; odorless to slightly pungent odor**STATEMENTS OF HAZARD:****DANGER! CAUSES SEVERE BURNS OF EYES AND SKIN****POTENTIAL HEALTH EFFECTS****EFFECTS OF OVEREXPOSURE:**

Direct contact with this material may cause severe eye and skin irritation.

Refer to Section 11 for toxicology information on the OSHA regulated components of this product.

4. FIRST AID MEASURES

In case of skin contact, remove contaminated clothing without delay. Wear impervious gloves. Cleanse skin thoroughly with soap and water. Do not omit cleaning hair or under fingernails if contaminated. Do not reuse clothing without laundering. Do not reuse contaminated leatherware.

In case of eye contact, immediately irrigate with plenty of water for 15 minutes. Obtain medical attention without delay.

If vapor of this material is inhaled, remove from exposure. Administer oxygen if there is difficulty in breathing. Give artificial respiration if person is not breathing and continue until normal breathing is established. Obtain medical attention without delay.

5. FIRE FIGHTING MEASURES**FLAMMABLE PROPERTIES****FLASH POINT:** Not applicable



Kemiron, Inc.
 3211 Clinton Parkway Court, Suite #1
 Lawrence, KS 66047

Emergency Phone No. 314-241-3951
 CHEMTREC 800-424-9300
 CANUTEC (Canada) 613-996-6666
 Prepared by Richard Lee, C.S.P.
 (417) 886-8454

MATERIAL SAFETY DATA SHEET

SECTION 1 - IDENTITY INFORMATION

Product Name: FERRIC CHLORIDE SOLUTION
Chemical Formula: FeCl₃
Synonyms: Iron (III) Chloride, Iron Trichloride
Chemical Family: Iron salt solution
Molecular Weight: 162.21
NIOSH RTECS NO: LJ 9100000
Latest Revision Date: 1-15-97

HMIS RATING
H-F-R
2-0-0

SECTION 2 - HAZARDOUS INGREDIENTS

		OSHA PEL	ACGIH TLV	%
Ferric Chloride - FeCl ₃	CAS# 7705-08-0	1mg/m ³	1mg/m ³	38-42
Hydrochloric Acid - HCl	CAS# 7647-01-0	(c) 7.5mg/m ³	(c) 7.5mg/m ³	.5-1
Water - H ₂ O		N/A	N/A	57-61.5

SECTION 3 - PHYSICAL CHARACTERISTICS

Boiling Point: 225° - 250° F
Freezing Point: 6° - 28° F (concentration dependent)
Vapor Pressure: N/A
Vapor Density (Air = 1): N/A (liquid)
Specific Gravity: 1.2-1.48
Evaporation Rate (Ether = 1): Greater than 1
Solubility In Water: Very Soluble
pH: .1 - 1.5
Appearance and Odor: Reddish brown solution, slight odor.



MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Occidental Chemical Corporation

5005 LBJ Freeway

P.O. Box 809050

Dallas, Texas 75380-9050

24 HOUR EMERGENCY TELEPHONE:

1-800-733-3665 or 1-972-404-3228 (U.S.);

32.3.575.55.55 (Europe);

1800-033-111 (Australia)

TO REQUEST AN MSDS:

MSDS@oxy.com or 1-972-404-3245

CUSTOMER SERVICE:

1-800-752-5151 or 1-972-404-3700

MSDS NUMBER: M32415

SUBSTANCE: CAUSTIC SODA LIQUID (ALL GRADES)

TRADE NAMES:

Caustic Soda Diaphragm Grade 10%, 15%, 18%, 20%, 25%, 30%, 35%, 40%, 50%; Caustic Soda Rayon Grade 18%, 20%, 25%, 30%, 50%; 50% Caustic Soda Rayon Grade OS; Caustic Soda Membrane 6%, 18%, 20%, 25%, 30%, 48%, 50%; 50% Caustic Soda Membrane OS; 50% Caustic Soda Diaphragm OS; Caustic Soda Low Salt 50%; 25% Caustic Soda Purified; 50% Caustic Soda Purified; 50% Caustic Soda Purified OS; Caustic Soda Liquid 70/30; Membrane Blended; 50% Caustic Soda Membrane (Northeast); 50% Caustic Soda Diaphragm (West Coast); 50% Blended Rayon Grade Blended; Membrane Cell Liquor

SYNONYMS:

Sodium hydroxide solution; Liquid caustic; Lye solution; Caustic; Lye; Soda lye

PRODUCT USE: metal finishing, cleaner, process chemical, petroleum industry

REVISION DATE: Mar 10 2006

2. HAZARDS IDENTIFICATION

NFPA RATINGS (SCALE 0-4): HEALTH=3 FIRE=0 REACTIVITY=1

HMIS RATINGS (SCALE 0-4): HEALTH=3 FLAMMABILITY=0 REACTIVITY=1



P.B. & S. CHEMICAL COMPANY, INC.

P. O. BOX 20 · HIGHWAY 136 WEST · ROUTE 2
HENDERSON, KENTUCKY 42420-0020
HENDERSON TEL. (502) 827 3545 · EVANSVILLE TEL. (812) 424 9051

MATERIAL SAFETY DATA SHEET
Revision Date: November 23, 1992

Calcium Chloride Solution

SECTION I - MATERIAL IDENTIFICATION

MANUFACTURER'S NAME

P. B. & S. Chemical Company, Inc.

STREET ADDRESS

1405 Highway 136 West / Geneva Road, P. O. Box 20

CITY, STATE AND ZIP CODE

Henderson, KY 42420

EMERGENCY TELEPHONE NUMBER

(502) 827-3545

CHEMICAL NAME AND SYNONYMS: Calcium Chloride Aqueous Solution, 20 - 38%

CHEMICAL FAMILY: Not Applicable

FORMULA: 20-38%, CaCl₂ Solution

SECTION II - HAZARDOUS INGREDIENTS

THRESHOLD LIMIT VALUES (UNITS)

CAS REGISTRY NO. CHEMICAL NAMES(S)

OSHA PEL	ACGIH TLV	
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10043-52-4

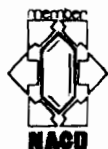
Calcium Chloride

* N.E.

* N.E.

* N.E. = No TLV established by ACGIH or PEL by OSHA.

This product does not contain any chemical(s) subject to reporting requirements of Section 313, Title III of SARA, Part 372.



BRENNTAG**BRENNTAG MID-SOUTH, INC.****MATERIAL SAFETY DATA SHEET**

Effective Date: June 28, 2004

BRENNFLOC AP 2636***** Section 1 - Chemical Product and Company Identification *******MANUFACTURER'S NAME & ADDRESS:****BRENNTAG MID-SOUTH, INC.**1405 Highway 136 West / Geneva Road
Henderson, Kentucky 42420**EMERGENCY TELEPHONE NUMBER:****(270) 830-1222****CHEMICAL NAME AND SYNONYMS:** AP 2636**FORMULA:** Mixture***** Section 2 - Composition / Information on Ingredients *****

CAS #	Component	Percent
25085-02-3	2-Propenoic acid, sodium salt, polymer with 2-propenamide	60-70
64742-47-8	Petroleum distillates, hydrotreated light	20-30
127087-87-0	Poly(oxy-1,2-ethanediyl), α -(4-nonylphenyl)- ω -hydroxy-, branched	1-3

Component Information/Information on Non-Hazardous Components

The components of this product are not regulated as hazardous under 29CFR and 49CFR. Not a hazardous product.

***** Section 3 - Hazards Identification *******Emergency Overview**

Irritant to eyes and skin. Inhalation of heated vapors may irritate the respiratory tract. Prolonged inhalation of concentrated vapors may cause damage to kidneys.

Potential Health Effects: Eyes

Irritant

Potential Health Effects: Skin

Irritant

Potential Health Effects: Ingestion

May be harmful if swallowed. Seek medical attention.

Potential Health Effects: Inhalation

Avoid prolonged inhalation of heated and/or concentrated vapors.

HMS Ratings: Health: 1 Fire: 1 Reactivity: 0 Pers. Prot.: B

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

***** Section 4 - First Aid Measures *******First Aid: Eyes**

Immediately flush eyes with water for at least 15 minutes, while holding eyelids open. Seek medical attention.

First Aid: Skin

Flush thoroughly with water.

First Aid: Ingestion

If ingested, get immediate medical attention. Do not induce vomiting unless instructed to do so by medical personnel.

First Aid: Inhalation

Inhalation of mists into lungs may cause pulmonary disorder. Move victim to fresh air. Consult physician regarding any continued discomfort.