

217/782-2113

FEDERALLY ENFORCEABLE STATE OPERATING PERMIT - NSPS SOURCE

PERMITTEE

Henkel Corporation
Attn: Paul Grala
1345 Gasket Drive
Elgin, Illinois 60120

<u>Application No.:</u> 91110016	<u>I.D. No.:</u> 031438AAY
<u>Applicant's Designation:</u> IEPAAP032	<u>Date Received:</u> September 23, 2002
<u>Subject:</u> Manufacture of Adhesives	
<u>Date Issued:</u>	<u>Expiration Date:</u>
<u>Location:</u> 1345 Gasket Drive, Elgin, Cook County, 60120	

This permit is hereby granted to the above-designated Permittee to OPERATE emission source(s) and/or air pollution control equipment consisting of natural-gas-fired fuel combustion units (2 boilers and other space heaters/HVAC units), Water-Based Adhesive Manufacturing (11 mixing tanks and 12 storage tanks), Polyurethane Adhesive Manufacturing Process (7 reactors with condensers, 2 blend tanks, 10 storage tanks, and scrubber), pursuant to the above-referenced application. This Permit is subject to standard conditions attached hereto and the following special condition(s):

- 1a. This federally enforceable state operating permit is issued:
- i. To limit the emissions of air pollutants from the source to less than major source thresholds (i.e., 100 tons/year for PM₁₀, 100 tons/year for VOM, 10 tons/year for any single HAP and 25 tons/year of any combination of such HAPs). As a result the source is excluded from the requirement to obtain a Clean Air Act Permit Program (CAAPP) permit. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.
 - ii. Based upon the source not being subject to the requirements of the National Emission Standards for Hazardous Air Pollutants (NESHAP) for Miscellaneous Coating Manufacturing, 40 CFR 63 Subpart HHHHH. This is consequence of the federally enforceable production and operating limitations, which restrict a potential to emit to less than 10 tons/year for any individual Hazardous Air Pollutant (HAP), and 25 tons/year of any combination of such HAPs.
 - iii. To limit the potential emissions of VOM from the source to less than 25 tons/year. As a result, the source is excluded from the requirement of 35 Ill. Adm. Code Part 205, Emission Reduction Market System. The maximum emissions of this source, as limited by the conditions of this permit, are described in Attachment A.

- iv. Based on the Polyurethane Adhesive Manufacturing Process not being subject to the requirements of 35 Ill. Adm. Code Part 218 Subpart QQ (Miscellaneous Formulation Manufacturing Process). This is consequence of the federally enforceable production and operating limitations, which restrict a potential to emit to less than 25 tons per year.
- b. Prior to issuance, a draft of this permit has undergone a public notice and comment period.
- c. This permit supersedes all operating permits issued for this location.
- 2a. The Ocean Shore boiler is subject to a New Source Performance Standard (NSPS) for Small Industrial-Commercial-Institutional Steam Generating units, 40 CFR 60, Subparts A and Dc. The Illinois EPA is administering the NSPS in Illinois on behalf of the United States EPA, under a delegation agreement.
- b. Pursuant to 40 CFR 60.11(d), at all times, including periods of startup, shutdown, and malfunction, owners and operators shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment, in a manner consistent with good air pollution control practice for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the Illinois EPA or USEPA which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
- 3a. No person shall cause or allow the emission of smoke or other particulate matter, with an opacity greater than 30 percent, into the atmosphere from any emission unit other than those emission units subject to the requirements of 35 Ill. Adm. Code 212.122, pursuant to 35 Ill. Adm. Code 212.123(a), except as allowed by 35 Ill. Adm. Code 212.123(b) and 212.124.
- b. No person shall cause or allow any visible emissions of fugitive particulate matter from any process, including any material handling or storage activity beyond the property line of the emission source unless the wind speed is greater than 40.2 kilometers per hour (25 miles per hour), pursuant to 35 Ill. Adm. Code 212.301 and 212.314.
- c. Pursuant to 35 Ill. Adm. Code 212.309(a), the emission units described in 35 Ill. Adm. Code 212.304 through 212.308 shall be operated under the provisions of an operating program, consistent with the requirements set forth in 35 Ill. Adm. Code 212.310 and 212.312, and prepared by the owner or operator and submitted to the Illinois EPA for its review. Such operating program shall be designed to significantly reduce fugitive particulate matter emissions.
- i. All normal traffic pattern access areas surrounding storage piles specified in 35 Ill. Adm. Code 212.304 and all normal traffic pattern roads and parking facilities which are located on mining or manufacturing property shall be paved or treated with water, oils or chemical dust suppressants. All paved areas shall be cleaned on a regular basis. All areas treated with water, oils or chemical dust suppressants shall have the treatment applied on

a regular basis, as needed, in accordance with the operating program required by 35 Ill. Adm. Code 212.309, 212.310 and 212.312.

- ii. All unloading and transporting operations of materials collected by pollution control equipment shall be enclosed or shall utilize spraying, pelletizing, screw conveying or other equivalent methods.
- d. Pursuant to 35 Ill. Adm. Code 212.310, as a minimum the operating program shall include the following:
- i. The name and address of the source;
 - ii. The name and address of the owner or operator responsible for execution of the operating program;
 - iii. A map or diagram of the source showing approximate locations of storage piles, conveyor loading operations, normal traffic pattern access areas surrounding storage piles and all normal traffic patterns within the source;
 - iv. Location of unloading and transporting operations with pollution control equipment;
 - v. A detailed description of the best management practices utilized to achieve compliance with 35 Ill. Adm. Code 212 Subpart K, including an engineering specification of particulate collection equipment, application systems for water, oil, chemicals and dust suppressants utilized and equivalent methods utilized;
 - vi. Estimated frequency of application of dust suppressants by location of materials; and
 - vii. Such other information as may be necessary to facilitate the Illinois EPA's review of the operating program,
- f. Pursuant to 35 Ill. Adm. Code 212.321(a), no person shall cause or allow the emission of particulate matter into the atmosphere in any one hour period from any new process emission unit which, either alone or in combination with the emission of particulate matter from all other similar process emission units for which construction or modification commenced on or after April 14, 1972, at a source or premises, exceeds the allowable emission rates specified in subsection (c) of 35 Ill. Adm. Code 212.321.
- 3a. i. Pursuant to 35 Ill. Adm. Code 218.122(a), no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere during the loading of any organic material from the aggregate loading pipes of any loading area having through-put of greater than 151 cubic meters per day (40,000 gal/day) into any railroad tank car, tank truck or trailer unless such loading area is equipped with submerged loading pipes.

- ii. Pursuant to 35 Ill. Adm. Code 218.122(b), no person shall cause or allow the loading of any organic material into any stationary tank having a storage capacity of greater than 946 l (250 gal), unless such tank is equipped with a permanent submerged loading pipe.
 - iii. Pursuant to 35 Ill. Adm. Code 218.122(c), if no odor nuisance exists the limitations of 35 Ill. Adm. Code 218.122 shall only apply to the loading of VOL with a vapor pressure of 17.24 kPa (2.5 psia) or greater at 294.3°K (70°F).
- b. Pursuant to 35 Ill. Adm. Code 218.182(a), no person shall operate a cold cleaning degreaser unless:
- i. Waste solvent is stored in covered containers only and not disposed of in such a manner that more than 20% of the waste solvent (by weight) is allowed to evaporate into the atmosphere;
 - ii. The cover of the degreaser is closed when parts are not being handled; and
 - iii. Parts are drained until dripping ceases.
- c. Pursuant to 35 Ill. Adm. Code 218.182(b), no person shall operate a cold cleaning degreaser unless:
- i. The degreaser is equipped with a cover which is closed whenever parts are not being handled in the cleaner. The cover shall be designed to be easily operated with one hand or with the mechanical assistance of springs, counter-weights or a powered system if:
 - A. The solvent vapor pressure is greater than 2 kPa (15 mmHg or 0.3 psi) measured at 38°C (100°F);
 - B. The solvent is agitated; or
 - C. The solvent is heated above ambient room temperature.
 - ii. The degreaser is equipped with a device for draining cleaned parts. The drainage device shall be constructed so that parts are enclosed under the cover while draining unless:
 - A. The solvent vapor pressure is less than 4.3 kPa (32 mmHg or 0.6 psi) measured at 38°C (100°F); or
 - B. An internal drainage device cannot be fitted into the cleaning system, in which case the drainage device may be external.
 - iii. The degreaser is equipped with a freeboard height of 7/10 of the inside width of the tank or 91 cm (36 in), whichever is less, if the vapor pressure of the solvent is greater than 4.3 kPa (32 mmHg or 0.6 psi) measured at 38°C (100°F) or if the solvent is heated above 50°C (120°F) or its boiling point.

- iv. A permanent conspicuous label summarizing the operating procedure is affixed to the degreaser; and
 - v. If a solvent spray is used, the degreaser is equipped with a solid fluid stream spray, rather than a fine, atomized or shower spray.
- d. Pursuant to 35 Ill. Adm. Code 218.182(c)(2)(B), on and after March 15, 2001, no person shall operate a cold cleaning degreaser with a solvent vapor pressure which exceeds 1.0 mmHg (0.019 psi) measured at 20°C (68°F).
 - e. Pursuant to 35 Ill. Adm. Code 218.301, no person shall cause or allow the discharge of more than 3.6 kg/hr (8 lbs/hr) of organic material into the atmosphere from any emission unit, except as provided in 35 Ill. Adm. Code 218.302, 218.303, 218.304 and the following exception: If no odor nuisance exists the limitation of this 35 Ill. Adm. Code 218 Subpart G shall apply only to photochemically reactive material.
- 4. In the event that the operation of this source results in an odor nuisance, the Permittee shall take appropriate and necessary actions to minimize odors, including but not limited to, changes in raw material or installation of controls, in order to eliminate the odor nuisance.
 - 5a. The scrubber shall be in operation at all times when the associated emission units are in operation and emitting air contaminants.
 - b. The Permittee shall, in accordance with the manufacturer(s) and/or vendor(s) recommendations, perform periodic maintenance on the scrubber such that the scrubber is kept in proper working condition and not cause a violation the Environmental Protection Act or regulations promulgated therein.
 - 6. Natural Gas shall be the only fuel used in the fuel combustion units at this source. The use of any other fuel in the diesel generator sets requires that the Permittee first obtain a construction permit from the Illinois EPA and then perform stack testing to verify compliance with all applicable requirements.
 - 7a. Emissions and operation of equipment shall not exceed the following limits:

<u>Item of Equipment</u>	<u>Process Rate</u>		<u>Volatile Organic Material Emissions</u>	
	<u>(Batches/Yr)</u>	<u>(lbs/Yr)</u>	<u>(lbs/Mo)</u>	<u>(Tons/Yr)</u>
Microplast/Purmelt Cleanup	1,500	n/a	1,770	7.08
Solvent-Based Liofol Process	538	9,000,000	654	2.62
Liofol Reactor Cleanup	1,118	n/a	1,817	7.27
Storage Tanks	*	*	231	0.93
Heated NMP Cleaner	n/a	2,000	249	1.00
			Total	18.90

* Verified by TANKS 4.0

These limits are based on the maximum process rates, VOM emissions established in source testing (Microplast/Purmelt cleanup: 9.43 lbs/batch, Liofol process: 1.16 lbs/ton, Liofol cleanup: 13 lbs/batch), storage tank emissions using TANKS 4.0 and NMP cleaner usage.

- b. The emissions of Hazardous Air Pollutants (HAPs) as listed in Section 112(b) of the Clean Air Act shall not exceed 0.9 tons/month and 9.0 tons/year of any single HAP and 2.25 tons/month and 22.5 tons/year of any combination of such HAPs. As a result of this condition, this permit is issued based on the emissions of any HAP from this source not triggering the requirement to obtain a CAAPP permit from the Illinois EPA.
- c. Emissions and operation of equipment shall not exceed the following limits:

<u>Process Rate</u>		<u>Emission Unit</u>	<u>PM, PM₁₀ Emissions</u>	
<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>		<u>(Ton/Mo)</u>	<u>(Ton/Yr)</u>
2,000	20,000	Water-based Adhesive Manufacturing	2.0	20.0

These limits define the potential emissions of particulate matter from the source and are based on 20 lbs PM or PM-10/ton processed (Table 6.4-1 of AP-42, Fifth Edition, Volume I, May 1983).

- d. Emissions and operation of all fuel combustion units at the source shall not exceed the following limits:

<u>Natural Gas Usage</u>		<u>Pollutant</u>	<u>Emission Factor</u>	<u>Emissions</u>	
<u>(mmscf/Mo)</u>	<u>(mmscf/Yr)</u>			<u>(Lb/mmscf)</u>	<u>(Tons/Mo)</u>
3.0	30.0	NO _x	100	0.15	1.50
		CO	84	0.13	1.26
		PM, PM-10	7.6	0.011	0.11
		VOM	5.5	0.0083	0.083
		SO ₂	0.6	0.00009	0.0009

These limits are based on maximum fuel usage and standard emission factors for uncontrolled natural gas combustion in small boilers with less than 100 mmBtu/hour of heat input, (AP-42, Tables 1.4-1 and 1.4-2, AP-42, Fifth Edition, Volume I, Supplement D, March, 1998).

- e. Compliance with annual limits of this permit shall be determined on a monthly basis from the sum of the data for the current month plus preceding 11 months (running 12 month total).
- 8a. Pursuant to 35 Ill. Adm. Code 212.107, 212.109, and 212.110, testing for particulate matter emissions shall be performed as follows upon written request specified by 35 Ill. Adm. Code 201.282(a) and 212.110(c):
 - i. For both fugitive and nonfugitive particulate matter emissions, a determination as to the presence or absence of visible emissions from emission units shall be conducted in accordance with Method

22, 40 CFR part 60, Appendix A, incorporated by reference in 35 Ill. Adm. Code 212.113, except that the length of the observing period shall be at the discretion of the observer, but not less than one minute. This Condition shall not apply to 35 Ill. Adm. Code 212.301, pursuant to 35 Ill. Adm. Code 212.107.

- ii. Except as otherwise provided in 35 Ill. Adm. Code Part 212, and except for the methods of data reduction when applied to 35 Ill. Adm. Code 212.122 and 212.123, measurements of opacity shall be conducted in accordance with Method 9, 40 CFR Part 60, Appendix A, and the procedures in 40 CFR 60.675(c) and (d), if applicable, incorporated by reference in 35 Ill. Adm. Code 212.113, except that for roadways and parking areas the number of readings required for each vehicle pass will be three taken at 5-second intervals. The first reading shall be at the point of maximum opacity and second and third readings shall be made at the same point, the observer standing at right angles to the plume at least 15 feet away from the plume and observing 4 feet above the surface of the roadway or parking area. After four vehicles have passed, the 12 readings will be averaged, pursuant to 35 Ill. Adm. Code 212.109.
 - iii. Upon a written notification by the Illinois EPA, the owner or operator of a particulate matter emission unit subject to 35 Ill. Adm. Code Part 212 shall conduct the applicable testing for particulate matter emissions, opacity, or visible emissions at such person's own expense, to demonstrate compliance. Such test results shall be submitted to the Illinois EPA within thirty (30) days after conducting the test unless an alternative time for submittal is agreed to by the Illinois EPA, pursuant to 35 Ill. Adm. Code 212.110(c).
 - iv. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.
- b. Testing required by this Condition shall be performed by a qualified independent testing service.
- 9a. The Permittee shall fulfill applicable recordkeeping requirements to the NSPS, 40 CFR 60.7 and 60.48c.
 - b. Pursuant to 40 CFR 63.10(b)(3), if an owner or operator determines that his or her stationary source that emits (or has the potential to emit, without considering controls) one or more hazardous air pollutants regulated by any standard established pursuant to section 112(d) or (f) of the Clean Air Act, and that stationary source is in the source category regulated by the relevant standard, but that source is not subject to the relevant standard (or other requirement established under 40 CFR Part 63) because of limitations on the source's potential to emit or an exclusion, the owner or operator must keep a record of the applicability determination on site at the source for a period of 5 years after the determination, or until the source changes its operations to become an affected source, whichever comes first. The

record of the applicability determination must be signed by the person making the determination and include an analysis (or other information) that demonstrates why the owner or operator believes the source is unaffected (e.g., because the source is an area source). The analysis (or other information) must be sufficiently detailed to allow the USEPA and/or Illinois EPA to make a finding about the source's applicability status with regard to the relevant standard or other requirement. If relevant, the analysis must be performed in accordance with requirements established in relevant subparts of 40 CFR Part 63 for this purpose for particular categories of stationary sources. If relevant, the analysis should be performed in accordance with USEPA guidance materials published to assist sources in making applicability determinations under Section 112 of the Clean Air Act, if any. The requirements to determine applicability of a standard under 40 CFR 63.1(b)(3) and to record the results of that determination under 40 CFR 63.10(b)(3) shall not by themselves create an obligation for the owner or operator to obtain a Title V permit.

- b. Pursuant to 35 Ill. Adm. Code 212.110(e), the owner or operator of an emission unit subject to 35 Ill. Adm. Code Part 212 shall retain records of all tests which are performed. These records shall be retained for at least three (3) years after the date a test is performed.
- c. Pursuant to 35 Ill. Adm. Code 218.182(d)(2), on and after March 15, 1999, all persons subject to the requirements of 35 Ill. Adm. Code 218.182(c)(1)(B) and (c)(2)(B) must maintain records which include for each purchase:
 - i. The name and address of the solvent supplier;
 - ii. The date of purchase;
 - iii. The type of solvent; and
 - iv. The vapor pressure of the solvent measured in mmHg at 20°C (68°F).
- d. The Permittee shall maintain records of the following items so as to demonstrate compliance with the conditions in this permit:
 - i. Records addressing use of good operating practices for the scrubber:
 - A. Records for periodic inspection of the scrubber with date, individual performing the inspection, and nature of inspection; and
 - B. Records for prompt repair of defects, with identification and description of defect, effect on emissions, date identified, date repaired, and nature of repair.
 - ii. Adhesive production of each type (batches/month and batches/year, lbs/month and tons/year);
 - iii. Cleanup solvent usage for the Microplast/Purmelt, Liofol Reactor, and Heated NMP Cleaner (lbs/month and tons/year);

- iv. Storage tank emissions using TANKS 4.0, with supporting calculations (lbs/month and tons/year); and
 - v. Monthly and annual PM, PM₁₀, VOM and HAP emissions, with supporting calculations (lbs/month and tons/year).
10. All records and logs required by this permit shall be retained at a readily accessible location at the source for at least five (5) years from the date of entry and shall be made available for inspection and copying by the Illinois EPA or USEPA upon request. Any records retained in an electronic format (e.g., computer) shall be capable of being retrieved and printed on paper during normal source office hours so as to be able to respond to an Illinois EPA or USEPA request for records during the course of a source inspection.
- 11a. Pursuant to 35 Ill. Adm. Code 212.110(d), a person planning to conduct testing for particulate matter emissions to demonstrate compliance shall give written notice to the Illinois EPA of that intent. Such notification shall be given at least thirty (30) days prior to the initiation of the test unless a shorter period is agreed to by the Illinois EPA. Such notification shall state the specific test methods from 35 Ill. Adm. Code 212.110 that will be used.
- b. If there is an exceedence of or a deviation from the requirements of this permit as determined by the records required by this permit, the Permittee shall submit a report to the Illinois EPA's Compliance Section in Springfield, Illinois within 30 days after the exceedence or deviation. The report shall include the emissions released in accordance with the recordkeeping requirements, a copy of the relevant records, and a description of the exceedence or deviation and efforts to reduce emissions and future occurrences.
12. Two (2) copies of required reports and notifications shall be sent to:

Illinois Environmental Protection Agency
Division of Air Pollution Control
Compliance Section (#40)
P.O. Box 19276
Springfield, Illinois 62794-9276

and one (1) copy shall be sent to the Illinois EPA's regional office at the following address unless otherwise indicated:

Illinois Environmental Protection Agency
Division of Air Pollution Control
9511 West Harrison Street
Des Plaines, Illinois 60016

Please note that the 4 electric drum heating ovens are exempt from air permit requirements, pursuant to 35 Ill. Adm. Code 201.146(b).

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If you have any questions regarding this permit, please call John Blazis at 217/782-2113.

Edwin C. Bakowski, P.E.
Acting Manager, Permit Section
Division of Air Pollution Control

Date Issued: _____

ECB:JPB:

cc: Illinois EPA, FOS Region 1
Lotus Notes

Attachment A - Emission Summary

This attachment provides a summary of the maximum emissions from this adhesive manufacturing source operating in compliance with the requirements of this federally enforceable permit. In preparing this summary, the Illinois EPA used the annual operating scenario which results in maximum emissions from such a plant that is producing such adhesives. The resulting maximum emissions are below the levels (i.e., 100 tons/year of PM-10, 100 tons/year of volatile organic material, 10 tons/year of single hazardous air pollutant, and 25 tons/year of combined hazardous air pollutants) at which this source would be considered a major source for purposes of the Clean Air Act Permit Program. Actual emissions from this source will be less than predicted in this summary to the extent that less material is handled and control measures are more effective than required in this permit.

<u>Emission Unit</u>	E M I S S I O N S (Tons/Year)						
	PM, <u>PM-10</u>	<u>VOM</u>	Single <u>HAP</u>	Total <u>HAPs</u>	<u>NO_x</u>	<u>CO</u>	<u>SO₂</u>
Adhesive Manufacturing Equipment (Process, Cleanup, Storage & Heated Cleaner)	20.0	18.90	9.00	22.50	---	---	---
Fuel Combustion Emission Units	<u>0.114</u>	<u>0.083</u>	----	-----	<u>1.50</u>	<u>1.26</u>	<u>0.009</u>
Totals:	20.114	18.983	9.00	22.50	1.50	1.26	0.009

ECB:JPB: