BeauGuard Coatings

Environmental Assessment

The manufacture and market distribution of BeauGuard Coatings poses no significant risk of introduction of substances into the environment and whose manufacture is not expected to result in a net increase in the use of energy and resources and whose added durability is expected to have a net decrease in consumption of resources and energy versus inferior coatings it replaces.

---

1. Date

2. Name of Applicant/Notifier

3. Address

4 Description of the Proposed Action

The action requested in this Notification is the establishment of a clearance to permit the use of BeauGuard Coatings for the purposes of coating surfaces of various types of materials that primarily inhibit corrosion, inhibit material breakdown from Ultraviolet (UV), is long-lasting, and reduces the heat load on surfaces and attached appurtenances. The application of the subject coatings may be by paint sprayer and roller with physical properties similar to paint.

The subject coatings offer several technical properties that are useful in a variety of coating applications, such as corrosion protection in HVAC system plenum chambers, corrosion protection for oil and gas industry storage tanks on both inside product contact surfaces and outside weather contact surfaces, for heat-load reduction and weather sealing in the recreational vehicle and commercial construction markets, for the floors, ceilings and walls of inhabited spaces, and as a substrate for sealing swimming pools and retention ponds. The variability introduced by consumer and industry desires for coated surfaces of their choice after purchase will dictate further uses.

While the petitioned for coatings are intended to compete with other coatings which are commonly available in the marketplace it is anticipated that BeauGuard Coatings products will primarily replace current products in the marketplace with similar uses; however, it will compete well with those that are not capable of providing the benefits earlier mentioned nor will they meet the environmentally conscious characteristics mentioned later in the Notification.

The Notifier intends to produce the BeauGuard Coatings product lines from a variety of ingredients including other finished products that are already environmentally approved through the Toxic Substances Control Act (TSCA) and sold commercially.

The Notifier recognizes the variability of uses by consumers and industries on innumerable projects will ensure wide distribution and use in patterns corresponding to the national population density and will be widely distributed across the country. Coated materials at their end of life cycle will occur nationwide and therefore disposal will also be nationwide, with roughly 27% of steel in all durable goods and up to 65% for steel packaging (likely objects for coatings) recycled. [1]

The types of environments present at and adjacent to these disposal sites are the same as for the disposal of any other coated material in current use. Consequently, there are no special circumstances regarding the environments surrounding either the use or disposal of coated materials prepared with the subject coatings.

5 Identification of Substance that Is the Subject of the Proposed Action

The coatings that are the subject of this Notification are derived from a mixture in proprietary amounts of commercially available acrylic polymer along with inert mineral oxides. Products with differing combinations may be labelled with separate names and marketed as BeauGuard Coatings products.

[1] *U.S. EPA Municipal Solid Waste Generation, Recycling, and Disposal in the United States: Facts and Figures for 2003, EPA530-F-05-003; 2005.*

6 Introduction of Substances into the Environment

In keeping with the intent of 40 C.F.R. 1508.9 an environmental assessment ordinarily focuses on relevant environmental issues relating to the use and disposal from use, and not the manufacture, of the subject coatings in a manner to assist a Federal agency in the determination as to whether to prepare an environmental impact statement or finding of no significant impact.

With respect to the subject coatings the Notifier does not suggest that there are any extraordinary circumstances in this case indicative of any adverse environmental impact as a result of the manufacture of the subject coatings. Consequently, information on the manufacturing site and compliance with relevant emissions requirements is not provided here.

No significant environmental release is expected upon use of the subject coatings. Application of the coating may be performed through low-volume commercial spray applicators that have been in widespread use for many years. Application is typically performed in paint booths and consequently overspray remains within the booth and corresponding air filtration system. In applications outside booths, the material is heavier than air and deposits within a few feet of the applicator onto areas prepared with tarps which are recovered and reused until no longer suitable. Paint booth filters and tarps (as well as any scrap) is managed appropriately as non-hazardous waste. Application of the product in windy or other conditions that may cast a wider dispersion radius are not expected as the technician would abandon application under those conditions since the resulting deposition on the intended material would be adversely affected (too thin) as to warrant ceasing operations.

Disposal by the ultimate consumer of coated materials at the end of their life cycle will be by conventional rubbish disposal and, hence, primarily to sanitary landfill. As only those materials subject to corrosion are coated it is not expected that coated materials will be subject to disposal by incineration (e.g. there is no need to coat plastics, paper, wood and therefore no materials that are normally incinerated are likely to become refuse). The unused coating in liquid or dried form (including cut scraps) are expected to be disposed as part of the consumer's conventional rubbish disposal or when by a commercial applicator or the manufacturer as part of their overall nonhazardous solid waste stream in accordance with established procedures.

The subject coatings being comprised of liquid acrylic compounds and mineral oxides and not drying agents do not produce any discernable odor during application or drying. The cured product resembles a thin paint film with similar elastic properties. The product has a long shelf-life and commercial technicians are unlikely to throw away unused material, rather, they are likely to consume the full measure of the product as they proceed from one project to another. Consumer use is expected to be limited as the product requires application with high-quality low-air volume applicators that are typically too expensive for the retail consumer market. If purchased by consumers it may be applied by hired local tradesmen with the equipment and technical experience for application.

Most interest in the product is from large commercial project managers for specialty applications. This also implies that application will be performed by trained technicians under controlled environments and a likelihood that their use will conform to manufacturer's recommendations to keep the product out of the environment, through more judicious use, professional technique, limited overspray or wastage, and proper disposal.

Only extremely small amounts, if any, of the subject coatings are expected to enter the environment as a result of application or of landfill disposal of unused product or items coated with the product in light of the Environmental Protection Agency's (EPA) regulations governing municipal solid waste landfills. EPA's regulations require new municipal solid-waste landfill units and lateral expansions of existing units to have composite liners and leachate collections systems to prevent leachate from entering ground and surface water, and to have groundwater monitoring systems. Although owners and operators of existing active municipal solid waste landfills that were constructed prior to October 9, 1993 are not required to retrofit liners and leachate systems, they are required to monitor groundwater and to take corrective action as appropriate. The inert properties of acrylics and lack of petro-chemical drying agents render a material that contains only minute levels of extractable material even under conditions that greatly exaggerate environmental exposure conditions. Even if a small amount of substances leach from the landfilled material into the landfill, we expect only extremely small amounts of substances, if any, to migrate from landfill leachate into the environment; this conclusion is based on EPA's regulations in 40 C.F.R. Part 258.

7 Fate of Emitted Substances in the Environment

No significant effect on the concentrations of and exposures to any substances in the atmosphere are anticipated due to the proposed use of the subject coatings. The products are of high molecular weight and do not volatilize. Thus, no significant quantities of any substances will be released upon the use or disposal of the subject coatings.

No significant introductions of substances into the environment as a result of the proposed use of the subject coatings were identified as discussed in the prior Format Item 6. Consequently, evaluation of the environmental fate of the subject coatings or its combustion products is not required. Even so, the Notifier has undertaken testing to meet United Nations International Maritime Organization (IMO) requirements for the application of the subject coatings for inhabited spaces. The subject coatings met and exceeded testing criteria making them suitable for use in the most demanding locations such as engine rooms, electrical rooms, staterooms, HVAC rooms, and food service and dining rooms, to name a few.

The International Maritime Organization (IMO) FTP Code part 2 Smoke Density and Toxicity Test criteria identifies the density of smoke generated under intense applied heat conditions and the formation, if any, of toxic gases as compared to criteria limits. As an example, a specimen of the BeauGuard Coatings coating line, MAD Rubber (now labelled as BeauGuard Coatings) was tested and passed, meeting the criteria for both smoke density and toxicity[2].

The International Maritime Organization (IMO) FTP Code part 5 criteria tests the product for resistance to the formation of droplets under intense applied heat which is one characterization of a product's flammability. As an example, a specimen of the BeauGuard Coatings coating line, MAD Rubber (now labelled as BeauGuard Coatings) was tested and passed, meeting the floor covering criteria[3].

[2] Intertek Testing Services NA Inc., IMO FTP Code part 2 Smoke and Toxicity Test, Report Number: 101941047MID-002, Original Issue Date: April 14, 2015.

[3] Intertek Testing Services NA Inc., 2010 IMO FTP Code part 5 evaluation for "Floor Coverings & Primary Deck Coverings", Project No. 101941047SAT-001A, Original Issue Date: January 27, 2015.

After significant testing there have been no observed adverse environmental or health hazards from the application of BeauGuard Coatings coatings on flooring materials and none are anticipated on the interiors or exteriors of inhabited housing, living spaces, or workspaces.

No significant effects on the concentrations of and exposure to any substances in fresh water, estuarine, or marine ecosystem are anticipated due to the proposed use of the subject coatings. The coating is not affected by salt of fresh water presenting excellent resistance during 11-day salt spray and 24 hour immersion tests.[4] No significant introduction of substances into the aqueous environment is anticipated as a result of the proposed use of the subject coatings as discussed in Format Item 6.

Considering the factors discussed above, no significant effects on the concentrations of and exposures to any substances in terrestrial ecosystems are anticipated as a result of the proposed use of the subject coatings. Thus, there is no expectation that any meaningful exposure of terrestrial organisms to these substances as a result of the proposed use of the subject coatings.

Considering the foregoing, we respectfully submit that there is no reasonable expectation of a significant impact on the concentration of any substance in the environment due to the proposed use of the subject coatings.

8 Environmental Effects of Released Substances

No significant introductions of substances into the environment as a result of the proposed use of the subject coatings were identified under Format Item 6. Consequently, evaluation of the environmental effects of the proposed use of the subject coatings is not required.

9 Use of Resources and Energy

As is the case with other coating products, the production, use and disposal of the subject coating products involves the use of natural resources such as petroleum energy products, coal, and the like. However, the use of the subject coating's ingredients is not expected to result in a net increase in the use of energy and resources, since the subject coatings are intended to be used in place of similar coatings now on the market.

The replacement of these types of coating products by the subject coatings is not expected to have any adverse impact on the use of energy and resources, and may have a net negative (e.g. beneficial) balance. Manufacture of the subject coatings will consume energy and resources in amounts comparable to the manufacture of similar coatings. The subject coatings will outlast inferior coatings thereby extending the life of coated products and, thus, reducing the quantity and volume of materials being discarded to landfill. And, as the product lasts longer there is less need for repeated applications of the product, thereby, reducing the amount of subject coatings to be manufactured, pound-for-pound, compared to inferior coatings that would require manufacturing and application more frequently than the subject coatings. Moreover, an argument could be made that due to its added durability the subject coatings have a net negative (more beneficial) energy and resource balance versus inferior coatings.

[4] *ASTM Testing summary page, MAD Rubber 363 @ 20 Dry Mils Test Results.*

10 Mitigation Measures

As described above, no significant adverse environmental impacts are expected to result from the use and disposal of the subject coatings or the materials coated. This is primarily due to the polymeric curing that does not require the addition of drying agents and allows the coating to cure without volatilizing or off-gassing resulting in an elastic water-resistant material that is not prone to leaching. Also, as the products coated are not subject to disposal by incineration, no significant amounts of combustion products are anticipated nor will this be a source for air contaminants. Thus, the use or disposal of the subject coatings is not reasonably expected to result in any new environmental problem requiring mitigation measures of any kind.

11 Alternative to the Proposed Action

No potential adverse environmental effects are identified herein which would necessitate alternative actions to that proposed in this Notification. The alternative of not clearing the action proposed herein would simply result in the continued use of the materials which the subject coatings would otherwise replace; such action would have no environmental impact. In view of the excellent qualities of the subject coatings for use in a number of industries and applications, the fact that the subject coatings are not expected to enter the environment in more than minute quantities, if any, upon the use and disposal of coated materials in lower quantities that if coated with inferior products, and the absence of any significant environmental impact which would result from their use, the net benefit to energy and resources of a longer-lasting more durable coating, the clearance of the use of the subject coatings as described herein by allowing this Notification to become effective is environmentally safe in every respect.

12 List of Preparers

Steve Collins, CHMM, ASP, MBA, consultant to MAD Armor, 4871 NE 2nd Ave. Oakland Park, FL 33334.

The undersigned certifies that the information provided herein is true, accurate, and complete to the best of their knowledge.

Date

Full Name

Signature