

AMR-1

Amrep, Inc. Favorable Environmental Profile
Standard for Aerosol Products



First Edition
November 11, 2008

AMR-1 - Amrep, Inc. Favorable Environmental Profile
Standard for Aerosol Products

Table of Contents

Acronyms and Abbreviations.....	4
1.0 Scope.....	5
2.0 Definitions.....	5
2.1 Carcinogen.....	5
2.2 Food Grade.....	5
2.3 Fragrance.....	5
2.4 Industrial Waste / Industrial Material.....	5
2.5 Ingredient.....	5
2.6 Mutagen.....	6
2.7 Ozone Depleting Substance.....	6
2.8 Post Consumer Material.....	6
2.9 Propellant.....	6
2.10 Ready Biodegradability.....	6
2.11 Recyclable.....	6
2.12 Teratogen.....	6
2.13 Ultimate Biodegradability.....	6
3.0 Product Specific Requirements.....	6
3.1 Required Ingredient Specification.....	6
3.1.1 Third Party or Food Grade.....	6
3.1.2 CMT.....	6
3.1.3 Fragrance.....	6
3.1.4 Heavy Metals.....	6
3.1.5 Propellant.....	6
3.1.6 SARA Title III.....	7
3.1.7 Specifically Prohibited.....	7
3.2 Required Product Properties.....	7
3.2.1 Biodegradation.....	7
3.2.2 Non-Flammable.....	7
3.2.3 Particle Size.....	7
3.2.4 VOC.....	7
3.2.5 Water-based.....	7
4.0 Aerosol Can and Cap Requirements.....	7

4.1	Aerosol Can Requirements.....	7
	4.1.1 Recycle Content.....	7
	4.1.2 Toxics in Packaging.....	7
4.2	Aerosol Cap Requirements.....	8
	4.2.1 Source Reduction.....	8
	4.2.2 Recyclable.....	8
5.0	Outer Packaging Requirements.....	8
	5.1 SFI.....	8
	5.2 Recycle Content.....	8
	5.3 Bleach.....	8
6.0	Labeling and Advertising Requirements.....	8
	6.1 Logo Use.....	8
	6.2 Review.....	8

Acronyms and Abbreviations

APE - Alkylphenol Ethoxylate
ASTM - American Society for Testing and Materials
CARB - California Air Resources Board
CFC - Chlorofluorocarbon
CFR - Code of Federal Regulations
CMT - Carcinogen, Mutagen, or Teratogen
DfE - US EPA Design for the Environment
EDTA - Ethylenediaminetetraacetic Acid
EPA - U.S. Environmental Protection Agency
FDA - U.S. Food and Drug Administration
FEP - Favorable Environmental Profile
GHG - Greenhouse Gas
GWP - Global Warming Potential
HCFC - Hydrochlorofluorocarbon
HFC - Hydrofluorocarbon
LADCO - Lake Michigan Air Directors Consortium
NPE - Nonylphenol Ethoxylate
NSF - NSF International (formerly National Sanitation Foundation)
NTA - Nitrioltriacetic Acid
ODP - Ozone Depletion Potential
OTC - Ozone Transportation Commission
Prop 65 - California's Proposition 65, titled "The Safe Drinking Water and Toxic Enforcement Act of 1986."
SARA Title III - Superfund Amendments and Reauthorization Act, also known as the Emergency Planning and Community Right to Know
SCS - Scientific Certification Systems
SFI - Sustainable Forestry Initiative
VOC - Volatile Organic Compound

AMR-1 - Amrep, Inc. Favorable Environmental Profile Standard for Aerosol Products

1.0 Scope

Third party certifications of environmental profiles for industrial, institutional, and consumer products are beneficial for consumers to make informed decisions. However, there is currently no such entity that provides these certifications for aerosol products. This leaves consumers in the dark when determining which aerosol products make legitimate environmental claims. To fill this void and provide consumers with a level of comfort and clarity about the environmental claims stated on aerosol products, Amrep has developed this standard.

The following criterion in this standard considers many facets of an aerosol product. First and foremost, the ingredients of the product, including the propellant, go through careful consideration before being deemed worthy of this FEP standard. Secondly, packaging, the aerosol can and cap on the can, must meet specific criteria to comply with this standard. Finally, even the box that these products are placed in must meet precise guidelines before the label of these products can bear the FEP seal.

2.0 Definitions

- 2.1 **Carcinogen.** A substance, radionuclide or radiation that is an agent directly involved in the promotion of cancer or in the increase of its propagation.
- 2.2 **Food Grade.** Meets or exceeds the requirements of FDA regulations 21 CFR 172 for use in or on food for human consumption.
- 2.3 **Fragrance.** An ingredient, usually a mixture of several components, used to provide a desired scent to a product.
- 2.4 **Industrial Waste/Industrial Material.** Scrap material and by-products generated from the manufacturing and fabrication process.
- 2.5 **Ingredient.** Any chemical component intentionally added to a product to impart a desired effect upon the performance or aesthetics of the product.

- 2.6 **Mutagen.** A chemical agent that changes the genetic information (usually DNA) of an organism and thus increases the frequency of mutations above the natural background level. As many mutations cause cancer, mutagens are typically also carcinogens.
 - 2.7 **Ozone Depleting Substance.** A compound with an ODP of 0.01 or higher as designated on the list of Class I or Class II Ozone-Depleting Substances published by the EPA.
 - 2.8 **Post-consumer material.** End products that have served their intended purpose as a consumer item, and would otherwise have been disposed of as a solid waste.
 - 2.9 **Propellant.** Compounds often liquefied or compressed gases that pressurize containers providing the delivery mechanism of a desired substance.
 - 2.10 **Ready Biodegradability.** ASTM E1720-01 defines this as 60% biodegradation or greater within a 10 day window.
 - 2.11 **Recyclable.** Products separated from waste streams so that they may be used again or reused in manufacturing of other products.
 - 2.12 **Teratogen.** Chemicals that can result in a wide range of structural abnormalities, birth defects, or malformations.
 - 2.13 **Ultimate Biodegradability.** ASTM E1720-01 defines this as 60% biodegradation or greater within a 28 day window, but not within the 10 day window of Ready Biodegradability.
- 3.0 **Product Specific Requirements**
- 3.1 **Required Ingredient Specifications.** All ingredients in the aerosol product must meet guidelines that follow:
 - 3.1.1 **Third Party or Food Grade.** Ingredients must be third party endorsed (DfE, Cleangredients, etc.) or food grade when possible.
 - 3.1.2 **CMT.** No ingredient will be a known CMT or Prop 65 listed chemical.
 - 3.1.3 **Fragrance.** No fragrance in these products will contain phthalates
 - 3.1.4 **Heavy Metals.** The ingredients will not include mercury, lead, cadmium, hexavalent chromium, or selenium.
 - 3.1.5 **Propellant.** No GHG, GWP or ozone depleting substance is to be used to propel the aerosols.

3.1.6 SARA Title III. Chemicals on this list will not appear in these products.

3.1.7 Specifically Prohibited. The formulation shall not contain the following ingredients:

- Alcohols (Volatile)
- Ammonia (may contain up to 0.02% as pH buffer)
- APEs
- Aromatic Hydrocarbons
- CFCs
- Chlorinated Solvents
- Chlorine
- E Series Glycol Ether
- EDTA
- Inorganic Phosphates
- HCFCs
- HFCs
- Mineral Spirits
- NPEs
- Silicones

3.2 Required Product Properties. Products must meet the following criterion:

3.2.1 Biodegradation. Product must meet either Ready Biodegradability or Ultimate Biodegradability standard per ASTM E1720-01.

3.2.2 Non-Flammable. Product must not be categorized as flammable.

3.2.3 Particle Size. Must meet the profile for non-respirable particles typically found in pump and trigger spray forms of the same product types.

3.2.4 VOC. Product must not only meet standards set forth by CARB, OTC, LADCO, and EPA, but also, when possible, they must be well below the limit without reducing efficacy

3.2.5 Water-based. Product contains a minimum of 50% water by weight.

4.0 Aerosol Can and Cap Requirements

4.1 Aerosol Can Requirements. The steel aerosol can must meet the following specifications:

4.1.1 Recycle Content. Must contain at least 50% recycled steel from post consumer and industrial waste.

4.1.2 Toxics in Packaging. Must not contain any lead, mercury, cadmium, or hexavalent chromium

4.2 Aerosol Cap Requirements. The cap on the aerosol container must meet the following specifications:

4.2.1 Source Reduction. Must use 75% less material than the standard aerosol cap of Amrep, Inc.

4.2.2 Recyclable. Cap must be comprised of HDPE or PP, as they are readily recyclable.

5.0 Outer Packaging Requirements

5.1 SFI. Corrugated supplier should be NSF certified SFI

5.2 Recycle Content. Must contain an average of 45% post consumer and industrial material content.

5.3 Bleach. No chlorine bleach should be used for whitening corrugated.

6.0 Labeling and Advertising Requirements

6.1 Logo Use. The FEP logo is intended only for use on or about products that meet all of the requirements in AMR-1 sections 2.0 - 5.0. The logo is not to be used for the purpose of making any other claim than “Favorable Environmental Profile.”

6.2 Review. All use of the FEP logo and “Favorable Environmental Profile” claim must meet review and approval by the regulatory department of Amrep, Inc.