

1.0 PURPOSE

The purpose of this document is to establish a program to evaluate the suitability of new or novel fire fighting agents. These guidelines should be followed by an applicant requesting a Mine Safety and Health Administration (MSHA) suitability evaluation of a new or novel fire fighting agent proposed for mine use. This document specifies information that should be provided by an applicant. It serves as interpretive guidance for the evaluation of new or novel fire fighting agents with respect to MSHA fire protection requirements.

2.0 SCOPE

The fire fighting agents for evaluation under this program are those that would be considered by MSHA as new or novel. New or novel fire fighting agents would be those products that have been recently introduced into the market place and not the typical well known "traditional" agents such as water; dry chemicals such as monoammonium phosphate (ABC classified multipurpose dry chemical); or aqueous foams such as protein, flouroprotein, AFFF, FFFP, and medium or high expansion types. The new agents may be unique wetting agents or heat extracting agents and/or agents that are considered environmentally friendly such as replacements for Halon 1301, Halon 1211, or other fluorocarbon products.

This is a *voluntary* procedure designed to facilitate the evaluation of new or novel fire fighting agents. A fee is charged.

3.0 REFERENCES

- 3.1. Title 30 Code of Federal Regulations (30 CFR) Part 75.1100-1(c) & (d)
- 3.2. Title 30 Code of Federal Regulations (30 CFR) Part 75.1100-1 (e)
- 3.3. Title 30 Code of Federal Regulations (30 CFR) Part 75.1106
- 3.4. Title 30 Code of Federal Regulations (30 CFR) Part 75.1107-7(f)
- 3.5. Title 30 Code of Federal Regulations (30 CFR) Part 75.1107-13
- 3.6. Title 30 Code of Federal Regulations (30 CFR) Part 75.1502

- 3.7. Title 30 Code of Federal Regulations (30CFR) Part 77.1108-1 & 1109
- 3.8. Title 30 Code of Federal Regulations (30 CFR) Part 57.4230, 4260 & 4263
- 3.9. Title 30 Code of Federal Regulations (30 CFR) Part 57.4600
- 3.10. Title 30 Code of Federal Regulations (30 CFR) Part 56.4200 & 4600
- 3.11. UL, Underwriters' Laboratories
- 3.12. FM, Factory Mutual System
- 3.13. NFPA, National Fire Protection Association

4.0 DEFINITIONS

- 4.1 Applicant - An applicant is an entity that manufactures or controls the assembly of a product and that applies to MSHA for evaluation of that product.
- 4.2 Company assigned application code number - a unique six digit number assigned by the applicant that is used for the tracking of the application paperwork.
- 4.3 "Suitability Number " - A number assigned to a new or novel fire fighting agent that indicates the agent has met the requirements of this procedure, and can be used in lieu of "traditional" agents as equal or better for fire fighting purposes.

5.0 APPLICATION PROCEDURE

5.1. Fees

An hourly fee is charged to process an application. Following the receipt of an application, MSHA will advise the applicant in writing of the estimated charges to process the application. The applicant then must sign and return a form agreeing to the estimated charges before processing can begin. This estimate does not include travel charges for witnessing a test if required. An incomplete

application requiring further correspondence with the applicant will take longer to process. Therefore, it is to the applicant's advantage to submit a complete application with all the information and data requested in this procedure. If final, total charges are less than the estimated amount, the lesser amount will be charged.

An applicant may submit a preauthorization notice for processing an application. The preauthorization notice is a statement by the applicant authorizing MSHA to expend a stated amount of money in evaluating the application, eliminating the need for MSHA to provide a fee estimate letter. If the final, total charges are less than the preauthorize amount, the lesser amount will be charged

5.2. Introduction

Certain parts of the Code of Federal Regulations (CFR), Title 30, as listed in Section 3.0 provide usage requirements for fire extinguishing agents. However, specific guidance is not provided for evaluation of "nontraditional" fire fighting agents. This document establishes the procedures for evaluating such fire fighting agents

5.3. Applying for Suitability – Administrative Information

5.3.1. The material in this section is presented to assist an applicant in the submission of information and data for a proper evaluation of a request.

5.3.2. Costs for testing/evaluation are the responsibility of the applicant.

5.3.3. Only an individual or organization (applicant) that manufactures or controls the manufacturer of a new or novel fire fighting agent may apply for a suitability evaluation. The information provided by the applicant as indicated in Section 5.6, Quality Assurance of this "suitability" evaluation procedure must demonstrate the applicant has control of the manufacturing process.

5.3.4. The application must contain the manufacturer's name, address, telephone number, and the information requested in this procedure and be signed by an authorized representative of the company. An incomplete application will not be processed.

- 5.3.5. Each application must be identified by a company assigned application code number (six digit code number). The six numerical digits must be placed on the initial application and all subsequent correspondence.
- 5.3.6. Each new or novel agent requires a separate application.
- 5.3.7. Address the application to: Chief, Approval and Certification Center, Mine Safety and Health Administration, 765 Technology Drive, Triadelphia, WV 26059.
- 5.4. Technical Requirement for Suitability Evaluation
- 5.4.1. The effectiveness of a fire fighting agent, including the total quantity and its rate of application, shall provide equivalent protection to water, dry chemical, or foam agents, or devices as specified in the appropriate section of Title 30, Code of Federal Regulation (30CFR).
- 5.4.2. MSHA may request addition testing/information and/or demonstration pertaining to the new-agent based product as part of the review and evaluation process. MSHA reserves the right to witness testing. Alternatively, MSHA may request a video tape of the tests.
- 5.5. Product Information
- 5.5.1. The product or trade name of the fire fighting agent should be provided. The formulation of the fire fighting agent should also be provided by listing each ingredient by its chemical or generic name, along with its percentage (weight) and tolerance. Information designated by the applicant as proprietary or confidential will be kept as such by MSHA. All formulations and test results or other information designated as proprietary and/or confidential by the applicant will be kept as such by MSHA with the exception of the company name, address, phone number, product name, intended product use, and suitability number that may be issued by MSHA. MSHA is governed by the U.S. Code Title 18, Chapter 93, Section 1905 regarding the disclosure of confidential information.

- 5.5.2. Material Safety Data Sheet(s) (MSDS) should be provided for the ingredient(s) contained in the fire fighting agent.
- 5.5.3. Provide the normal state of the fire fighting agent such as solid, liquid, or gas and indicate its physical state in shipment.
- 5.5.4. Provide the following physical properties of the fire fighting agent in its shipping state:
- Density;
 - Electrical conductivity (in concentrate and diluted form, as applicable);
 - Color;
 - Flash point (if applicable);
 - Storage pressure (if a gas or liquefied gas);
- 5.5.5. Provide information on the toxicological effects of the fire fighting agent and its decomposition products including tests and results. Also, list the applicable Threshold Exposure Limits (TLVs) for the chemicals in the fire fighting agent.
- 5.5.6. Provide information regarding the fire fighting agent's incompatibility or adverse reaction with other materials or chemicals and indicate the hazard or hazards that may be encountered.
- 5.5.7. Provide information on shipping of the fire fighting agent such as labeling per Department of Transportation requirements and special shipping needs and storage requirements, if applicable.
- 5.5.8. Provide the recommended procedures, instructions/limitations, and any training needed for the safe handling and use of the fire fighting agent and its associated storage containers.
- 5.5.9. Information should be provided if there are special application techniques, or special devices such as nozzles or aerators needed for use of the fire fighting agent. If the fire fighting agent is in a concentrate form, the procedures/equipment for dilution of the agent should be provided.

5.6. Quality Assurance

5.6.1. Applications are to include information pertaining to procedures that the manufacturer uses to maintain the fire fighting agents rating, extinguishing capability and product design. This information is to include, as a minimum, the following items:

- Procurement procedures for the components or ingredients of the product, including their inspection;
- Manufacturing practices to maintain the fire fighting agent's formulation;
- Procedures for record keeping, such as inspection(s), test(s), and test result(s).

5.7. Statement on Toxicity and Quality Assurance

With respect to the provision in the sections above on toxicity and quality assurance, provide the following signed statement with the application:

I certify that the fire fighting agent _____, in its
(Trade Name)
final form presents no known toxic hazard under normal use conditions.

Furthermore, I certify, that we will assure compliance of this product with respect to all specifications submitted to MSHA, Approval & Certification Center.

Signed _____
(Authorized Company Official)

Title _____

Date _____

5.8. Product Audit

For fire fighting agents that receive a “suitability” number, the right is reserved to request product sample from the manufacturer at no cost to MSHA. An audit of the requested product will be made to verify its characteristics. Product sample will not be requested more than once a year, except for cause.

5.9. Issuance of Suitability Number and Changes

- 5.9.1. After completing its evaluation, MSHA will provide the applicant with a letter specifying the suitability or non-suitability of the fire fighting agent.
- 5.9.2. The packaging such as the container or canister of the suitable fire extinguishing agent must be legibly and permanently labeled or tagged with the nomenclature specified in the “Suitability Letter.” MSHA may permit alternate forms of labeling.
- 5.9.3. A new or novel fire fighting agent may be advertised as a “suitable” fire fighting agent, but such terms as “recommended”, “approved”, “accepted” or “sanctioned” by MSHA must not be used.
- 5.9.4. Modification---a manufacturer may request a “suitability” modification (extension request) for changes in the fire fighting agent such as composition. The need for testing and extent of evaluation will be determined by MSHA.
- 5.9.5. MSHA reserves the right to rescind a suitability number for cause.