Manufacturer Submission Procedures for Qualification Testing of Wildland Fire Chemical Products

U.S. Department of Agriculture, Forest Service
National Technology and Development Center
Wildland Fire Chemical Systems

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Policy

USDA Forest Service policy (Forest Service Manual 5160) requires that the agency “Use only evaluated, approved and qualified chemicals.”

The Director, Fire and Aviation Management, Washington Office, has the responsibility to approve chemicals for Forest Service operations and to administer the fire chemical products qualification and evaluation program.

Confidentiality

All information, including the fact that the Forest Service has an agreement with a company or is evaluating a product, is confidential. Upon qualification, test results and user information such as safe handling practices will be provided for use by Federal Agencies and to answer questions from the public.

The formulation disclosure and other product information provided to the Forest Service as a part of the submission process will be maintained within the Wildland Fire Chemical Systems (WFCS) Program for use during the evaluation process.

All proprietary or sensitive information is kept in a secure location and is accessible only to the Program and Project Leader of WFCS. Occasionally information may be provided to the Director of Fire and Aviation, the Branch Chief for Equipment and Chemicals, their staffs, and other governmental regulatory agencies as necessary to address specific issues as they arise. There are specific circumstances such as risk assessments and environmental consultations when the Government must disclose product information. This proprietary information is kept confidential otherwise.

Results of testing, progress through the evaluation process, numbers of products being evaluated, and product failures are not discussed except with the submitter’s authorized representative(s), identified during the submission process.

Once the product is included in the list of qualified and approved products, the Forest Service will respond to public or agency inquiries to address specific questions related to product effectiveness, corrosion, toxicity, and environmental impact, based on the results of the product evaluation. The Government will not disclose any confidential information.
Ownership of Evaluation Results

The entity submitting the product and paying the costs of the evaluation is the only entity that may benefit directly from the results of the evaluation.

Information developed during the course of the evaluation will not be transferred to other parties except at the direct request of the submitter. In fact, the Forest Service will not acknowledge that a submitted formulation is similar to or the same as a product submitted by another. Testing of each product will proceed independently of products submitted by any other company.

The submitting entity may transfer the rights to the evaluation and listing on the qualified products list at its discretion; however, the Forest Service should be notified of such transfer to assure legitimate access to information on file.

Once a product is listed on the Qualified Products List (QPL), the test results will be posted to the website for use by other Agencies and the public.

Freedom of Information Act (FOIA)

Information provided to the Forest Service as part of the product submission is subject to the Freedom of Information Act (FOIA), 5 U.S.C., Section 552. Confidential and trade secret information shall be protected; however, the results of the testing performed by the Forest Service may be disclosed under some circumstances.

Definitions

**Long-term retardant products** contain retardant salts (typically fertilizers) that alter the way the fire burns, decreasing the fire intensity and slowing the advance of the fire, even after the water they originally contained has evaporated.

They continue to work until they are removed from fuel by rain or erosion. The water they contain serves primarily to aid in uniform dispersal of the chemical over the target area.

**Foam fire suppressants** contain foaming and wetting agents. The foaming agents affect how fast the water drains from the foam, how well the product clings to the fuel surfaces, and the accuracy of an aerial drop. The wetting agents increase the ability of the drained water to penetrate fuels. Foams depend on the water that they contain to suppress the fire.

Appropriate selection of concentrate dilution and application equipment will yield a range of suppressants from wetting agent for mop-up through fluid foam for wet line to dry foam for exposure protection.

**Water enhancers** contain ingredients designed to alter the physical characteristics of water to increase effectiveness, accuracy of the drop, or adhesion to fuels. They also improve the ability of water to cling to vertical and smooth surfaces. These products are used as suppressants.

They depend on the water that they contain to suppress the fire. Water enhancers are not retardants.
Evaluation Requirements

Prior to being placed on the QPL, all wildland fire chemical products must be evaluated and meet the requirements found in the current applicable Forest Service Specification:

- Long-Term Retardant for Wildland Firefighting (5100-304d)
- Class A Foams for Wildland Firefighting (5100-307b)
- Water Enhancers for Wildland Firefighting (5100-306b)

These specifications are reviewed and/or amended and/or updated periodically. Updates are designated by change to the letter designation ending the specification number or by amendment. Qualifications and specific application approvals may change. These changes may require additional testing at supplier expense. There is no guarantee to a manufacturer that listing of a product on a QPL is permanent. In fact, the Federal Acquisition Regulation (FAR) expressly requires agencies maintaining QPLs to re-examine and possibly remove products from a QPL in certain circumstances – including when the requirements in the specification for the QPL change.

The revision in effect on the date of evaluation completion will be followed. To ensure that the submitter has the most recent revision of the specification, contact the Program Leader or Project Leader at the addresses shown below.

Communication directly with the Program Leader or Project Leader at WFCS is strongly encouraged prior to beginning the submission process.

The submitter should be sufficiently familiar with the specification to be confident that the formulation can meet those requirements. Third-party labs may be useful for performing preliminary testing; however, the only test results that will be considered by the Forest Service to determine that a formulation meets its requirements are those performed in the laboratory at WFCS or in third-party laboratories approved by WFCS on samples provided by WFCS. All reports must be sent directly from the third-party laboratory to WFCS. WFCS will inform the submitter of all findings from third-party laboratories in a progress report.

Communication

Communication regarding the evaluation process and any required information is normally done by email. The submitter is welcome to call directly or arrange for personal visits. Primary communication may be by hard-copy mail if requested.
Request for Evaluation

Requests for evaluation should be made in a letter to the Branch Chief, Fire Equipment and Chemicals. The letter should include general information about the potential product, product category (i.e. Retardant, Class A Foam, Water Enhancer) and other specifics that may be of interest.

Copies of the letter should be sent to the Program Leader and Project Leader, Fire Chemicals. These people can be contacted at the addresses shown below.

Dave Haston  Shirley Zylstra  Hunter Jones
Branch Chief, Fire Equipment Program Leader, Fire Project Leader, and Chemicals Chemicals Chemist
and Chemicals NTDP-Wildland Fire NTDP-Wildland Fire
Fire & Aviation Management Chemical Systems Chemical Systems
National Interagency Fire Center USDA Forest Service USDA Forest Service
3833 S. Development Ave. 5785 Highway 10 West 5785 Highway 10 West
Boise, ID  83705 Missoula, MT  59808 Missoula, MT  59808
Phone: (208) 387-5642 Phone: (406) 329-4859 Phone: (406) 829-6810
david.haston@usda.gov  shirley.zylstra@usda.gov  hunter.jones@usda.gov

Collection Agreement

Upon receipt of the request for submission, a Collection Agreement between the Forest Service, National Technology and Development Program (NTDP), WFCS and the submitter will be prepared. This document describes the roles and responsibilities of the Forest Service, WFCS laboratory personnel, and the submitter.

A Material Transfer Agreement (MTA) between NTDP and the submitter will also be prepared. This document describes how information and product samples will be handled. Follow-up discussions may be required to assure that the Forest Service has all of the necessary information to complete the agreement. Specific information in the agreement includes a list of authorized contacts for the Forest Service and for the submitter as well as an estimate of the cost and time required for the evaluation.

The agreement will be sent to the submitter. A cover letter containing instructions will accompany the agreement. Following these instructions relative to authorizing signatures, tax identification, and return of the signed agreement will allow the process to proceed in a timely manner.

Test Fees

The cost of the evaluation is the responsibility of the submitter and will require a deposit of funds to cover the estimated costs. Some specialized tests are conducted by approved third-party laboratories on samples provided by the Forest Service. Cost for these services is the responsibility of the submitter. A more specific cost for the evaluation will be determined by the Program Leader, based on the specific information provided about the product.

Following receipt of the signed collection agreement, the Forest Service will issue a Bill for Collection to the submitter. This bill will be for the amount determined during discussions between
WFCS and the submitter and shown in the agreement. A cover letter of instructions will be included with the bill and will provide the mailing address for the deposit of funds.

A copy of the Bill for Collection should be returned with a check for the specific amount shown in the collection agreement, and marked with the number shown on the Bill for Collection.

Submission Documents and Formulation Disclosure

Once the deposit of funds has been made, the Fire Chemicals Program Leader will contact the submitter directly to request the required product formulation and technical documentation. All of the data forms for the submission of required information are available on the WFCS web site or they may be requested directly from the Fire Chemicals Program Leader or Project Leader. They may be printed and submitted as hard copies or the information may be submitted electronically.

The primary document required is a Confidential Formulation Disclosure Sheet, containing information on all ingredients contained in the formulation. Full disclosure of the types and amounts of each chemical in the product, the Chemical Abstract Services (CAS) number, quality or grade, manufacturer, and manufacturing site and process is required for each ingredient. While multiple CAS numbers are acceptable for an individual ingredient there shall only be listed one manufacturer per ingredient.

The Government cannot accept chemicals for testing in the absence of a formulation disclosure.

Required Submission Forms

Long-term Retardant

- Formulation Disclosure (FS-5100-37)
- Technical Data Sheet – Part 1 (FS-5100-38)
- Technical Data Sheet – Part 2 (FS-5100-39)
- Toxicity Characteristic Leaching Procedure (TCLP) results (EPA SW-846, Test Method 1311)

Class A Foam

- Formulation Disclosure (FS-5100-35)
- Technical Data Sheet (FS-5100-36)

Water Enhancers

- Formulation Disclosure (FS-5100-32)
- Technical Data Sheet – Part 1 (FS-5100-33)
- Technical Data Sheet – Part 2 (FS-5100-34)

Other required information includes a Safety Data Sheet (SDS) for the product, a SDS for each ingredient included on the confidential formulation disclosure sheet, and the technical data sheets (Part 1 and Part 2).

Copies of patents covering any aspect of the formulation or its application in wildland fire operations should also be included.
Review of Submission Information Prior to Product Submission. The Government shall review the documentation package for completeness and consistency. Any questions that may arise shall be resolved prior to accepting a product for evaluation.

Formulation Change

The Forest Service Branch Chief, Fire Equipment and Chemicals must be notified of formulation changes. Any change to the formulation, including but not limited to changes in the type, quantity, quality, processing, supplier, manufacturer, or manufacturing site of individual ingredients is considered a formulation change. Qualification testing at supplier expense may be required for any formulation change.

Document Review

The Fire Chemicals Program Leader will review the documentation package for completeness and consistency. Any questions that may arise will be resolved at that time. A review of environmental regulations as they apply to the formulation and the ingredients of the formulation shall be completed at the same time.

If any of the ingredients trigger concern, a basic chemical profile and/or a risk assessment may be required before further action is taken on the formulation evaluation. The Forest Service will make a written notification to the submitter of these concerns and include the acceptable remedies and the associated costs. The submitter has the choice to continue or not at this point, and will be asked to notify the Forest Service in writing of that decision.

If required, this risk assessment will be performed by the Forest Service or an approved third-party selected by the Forest Service, using accepted methodology. All costs associated with the additional work will be the responsibility of the submitter.

Product Shipment and Receipt

When the review is complete, WFCS will notify the submitter to ship the product for evaluation.

The submitter is responsible for shipping the product to WFCS, including any costs as well as needed customs paperwork and arrangements to deliver the product to the laboratory for testing.

Product concentrate definitions, and the amount required for testing are outlined in the applicable base specification.

When the product is ready to ship, the submitter should notify the Fire Chemicals Project Leader by email or letter.

Ship the product to: Project Leader, WFCS
USDA Forest Service, NTDP
5785 Highway 10 West
Missoula, MT  59808

The Project Leader will notify the submitter by email that the product has been received.
**Evaluation**

The evaluation will normally be started within one week of receipt of the product. The Project Leader will notify the submitter if there is a delay.

The laboratory evaluation will normally take 18 to 24 months to complete following the receipt of the product.

The submitter will be provided with progress reports as specific tests are completed. Reports will be sent via email unless the submitter specifically requests a hard copy.

Upon completion of the evaluation, any excess product will be returned to the submitter at submitter’s expense.

**Final Report**

When all of the required testing is completed, WFCS will send the submitter a final report summarizing the results of all of the individual tests performed. Recommendations will be made to the Director of Fire and Aviation Management regarding the specific classifications and application methods for which the formulation should be approved.

**Acceptance and Notification**

The Director of Fire and Aviation Management will notify the submitter in writing of successful completion of the formulation evaluation.

**QPL Listing**

Following completion of all requirements of the specification, the formulation will be added to the QPL with the approved classifications and application methods.

**Procurement**

Long-term retardant products are normally purchased through national contracts for federal agencies. Information on these contracts is available through the contracting office at the National Interagency Fire Center in Boise, Idaho. The phone number is (208) 387-5682.

Class A Foams and Water enhancers are generally procured regionally or locally.