Standing Offer Arrangement (SOA) Details

Queensland Fire and Emergency Services

SOA Number: QFES300102-1

For the Provision of: Aerial Firefighting Suppressants

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Section 1 – General information

This SOA is for the supply of QFES300102 for the provision of Aerial Firefighting Suppressants.

This document forms part of the SOA between the Principal and Supplier. The SOA will be formed between the Principal and the Supplier when authorised representatives of both parties have signed, sealed and delivered the SOA Details.

Contracts formed under this SOA will incorporate the terms agreed by the Principal and the Supplier as set out in the SOA Details.

The SOA is not mandatory for Eligible Customers to use. However, Eligible Customers should primarily source goods and services through the Panel where suitable, in accordance with the Queensland Procurement Policy (QPP).

The Principal may add or remove Suppliers from the Panel. The Principal and/or Eligible Customers may engage other suppliers outside of the Panel for the supply of Aerial Firefighting Suppressants. Where the Principal appoints multiple Suppliers to the SOA Panel, and Eligible Customers may choose any SOA Panel Supplier to source the required goods and services in accordance with their local procurement procedures.

The Principal will appoint an SOA manager. The SOA manager will be responsible for the management of the SOA throughout the term of the SOA. The Principal may change the SOA manager from time to time.

The Supplier will work collaboratively with the Principal to ensure the benefits of purchasing under the SOA are achieved by Eligible Customers. Benefits for the Supplier and Eligible Customers accessing the SOA include:

- Competitive negotiated pricing;
- Agreed SOA Conditions;
- The Department initiated marketing and communication of the SOA to Eligible Customers, which may include conference attendance, direct communications and internal and/or public websites; and
- The opportunity for the Supplier to build business relationships with Eligible Customers as an approved Supplier for goods and services available to purchase under the SOA.

1. SOA details

SOA Title	Aerial Firefighting Suppressants
SOA Description	Provision of Retardant and Class A Foam for Aerial Firefighting.
SOA Reference Number	QFES300102-1

2. Principal

Principal Name	State of Queensland (acting through Queensland Fire and Emergency Services)
ABN or ACN	93 035 163 778

3. Principal contact details

Contact Name	Martin Gibson
Contact Position	Executive Manager, State Air Operations
Phone Number	07 3635 2490
Street Address	125 Kedron Park Rd, Kedron Qld 4031
Postal Address	GPO Box 1425, Brisbane Qld 4001
Email	martin.gibson@qfes.qld.gov.au

4. Eligible Customers

Eligible Customers	An Eligible Customer is as defined in the Definitions and Interpretations Version 3.1 February 2023.

5. Supplier

Supplier Entity Name	Solberg Asia Pacific Pty Ltd
Supplier Business Name (if applicable)	
Australian Business Number (ABN)	27 124 181 791
Australian Company Number (ACN)	124 181 791

6. Supplier contact details

Authorised representative(s)	Contrary to the public interest
Position title/role	Regional Sales Manager
Phone Number	Contrary to the public interest
Street Address	3 Charles St, St Marys NSW 2760
Postal Address	3 Charles St, St Marys NSW 2760
Email	Contrary to the public interest

7. Subcontractor(s)

Where Subcontractors are to be utilised is clause 22 of the SOA Conditions applicable.	Yes

8. SOA Term

This is the period of the SOA when Eligible Customers can enter into Contracts under the SOA.

Start Date	The date SOA is fully executed by both parties. In the event that each party signs on different dates, the later date will be the SOA's effective start date.
End Date	Three years from the SOA Start Date
Extension Options	Option to extend the arrangement up to a maximum of 5 years at the discretion of the Principal.

9. Cap on liability

Cap on liability in Contracts	The cap on liability (in the aggregate) of the Customer and Supplier in relation to a Contract is the greater of: (a) $1 million; or (b) 3 times the total of all Prices payable under the Contract.

10. Insurance

Workers compensation insurance	As required by Law.
Public liability and product liability insurance	Public and Products liability insurance to the minimum value of $10 million is required to be held and maintained during the SOA Term and any Contract Term.

Professional indemnity insurance	Professional indemnity insurance to the minimum value of $10 million is to be maintained for four years after the end of the SOA and any Contract which is established under the SOA.
Other insurances	Goods in Transit Insurance to the minimum amount of $300,000.00 is required to be held and maintained during the SOA Term and any Contract Term.
Evidence of insurance – clause 9(k)	Copies of Certificates of Currency issued by the Supplier's insurer are to be forwarded to the Principal within five (5) Business Days of a request from the Principal; or of receipt of the Certificate of Currency when renewing or changing an insurance policy.

11. Authorisations

Authorisations required – clause 9(l)	The Supplier is required to maintain appropriate accreditations, throughout the term of the Arrangement. All required licences, permits and permissions are to be maintained by the Supplier through the term of the Arrangement. The Supplier is to maintain appropriate quality assurance standards through the term of the Arrangement. The Goods supplied must meet minimum standards for aerial firefighting suppressants as listed in Appendix A Specifications.

12. Financial viability

Financial Viability of the Supplier – clause 9 (u) SOA Conditions	During the SOA Term, the Supplier is to maintain financial viability and have the financial capability to meet their obligations under the SOA. The Principal reserves the right to engage (at its own cost) an independent financial assessor as a nominated agent to conduct financial assessments under conditions of strict confidentiality. For this assessment to be completed, a representative from the nominated agent may contact the Supplier concerning the financial information that it is required to provide. The financial assessment is specifically for use by the Principal for the purpose of assessing Suppliers and will be treated as strictly confidential. The Supplier is required to cooperate with the independent financial assessor during the conduct of the financial assessment.

13. Confidentiality, privacy and conflict of interest deed

Are any of the Supplier's Personnel required to enter into a Confidentiality, Privacy and Conflict of Interest Deed?	A Confidentiality, Privacy and Conflict of Interest Deed is not required to be provided from the Supplier's Personnel to the Principal under the SOA. However, an Eligible Customer may require this under its contract with the Supplier.

14. New intellectual property ownership

Principal's license to Supplier for new Intellectual Property Rights under clause 16.2	License in Clause 16.2(i) applies
Intellectual Property Rights in Contract (under clause 16.4)	New Intellectual Property rights created or developed in performing a contract under the SOA will be owned by the Customer. If the new Intellectual Property Rights are owned by the Customer, the Customer grants the Supplier: ○ A License as per clause 14.2(a) of the General Contract Conditions.

Section 2 – Terms and conditions of the SOA and contracts/orders

1. Definitions and interpretation

The Definitions and Interpretation Version 3.1, February 2023, applicable to the SOA and Contracts, are available on the Queensland Government website http://www.qld.gov.au/gov/general-goods-and-services-templates.

2. Definitions and interpretation departures

Nil.

3. SOA conditions

The SOA Conditions which apply to the SOA between the Principal and the Supplier are the 3.1, current as of February 2023, available on the Queensland Government website http://www.qld.gov.au/gov/general-goods-and-services-templates.

4. SOA conditions additional provisions and/or departures

The following additional provisions and/or departures to the SOA Conditions will apply to the SOA. Additional provisions and/or departures outlined in this section will take precedence over any other section of this document and the SOA Conditions.

Nil.

5. Contract conditions

The applicable terms and conditions for the supply of the Goods and/or Services to a Customer under this SOA (i.e. the Contract / Order) are the, General Contract Conditions Version 3.1 current as at February 2023 available on the Queensland Government website http://www.qld.gov.au/gov/general-goods-and-services-templates.

6. Contract conditions additional provisions and/or departures

The following additional provisions and/or departures to those Conditions above will apply. The additional provisions and/or departures outlined in this section will take precedence over any other section of this document and the Conditions above.

Nil.

Section 3 – Execution of SOA

The parties to this deed have executed the deed on the dates set out below.

EXECUTED AS A DEED

1. Execution by Supplier

By executing this deed, the Supplier agrees to enter into an SOA with the Principal and supply Goods and/or Services to Eligible Customers under the terms and conditions of any Contract/Order formed in accordance with the SOA. If the Principal requests, the Supplier must provide evidence that the signatory is properly authorised to execute this deed.

Date ...25/08/2023.....

SIGNED, SEALED AND DELIVERED for and on behalf of:

SOLBERG ASIA PACIFIC PTY LTD
Name of Supplier

by its authorised representative, in the presence of:

Contrary to the public interest .....
Signature of witness

..Contrary to the public interest .....
Name of witness (block letters)

Contrary to the public interest .....
Signature of authorised representative

By executing this deed, the signatory warrants that the signatory is duly authorised to execute this deed on behalf of the Supplier

.Contrary to the public interest .....
Name of authorised representative (block letters)

General Manager .....
Position of authorised representative

Where the Supplier is a corporation:

EXECUTED as a deed by the Supplier:	)	
SOLBERG ASIA PACIFIC PTY LTD	)	
on Friday 25th August, 2023	)	
in accordance with s.127 of the *Corporations Act 2001* (Cth)	)	Contrary to the public interest
... Contrary to the public interest	)	.....
Name of Director	)	Signature of Director
	)	Contrary to the public interest
. Contrary to the public interest	)	.
Name of Director/~~Secretary~~	)	Signature of Director/~~Secretary~~

Contrary to the public interest

Nori Yokozuka
General Counsel

2. Execution by Principal

Date 28/08/2023	)	
SIGNED, SEALED AND DELIVERED for and on behalf of:	)	
	)	. [redacted] .....
QUEENSLAND FIRE AND EMERGENCY SERVICES	)	Signature of authorised representative of the Principal
by its authorised representative, in the presence of:	)	By executing this deed, the signatory warrants that the signatory is duly authorised to execute this deed on behalf of the Principal
..... [redacted]	)	
Signature of witness	)	
	)	Teresa Kuss .....
Andrea Sykes.....	)	Name of authorised representative (block letters)
Name of witness (block letters)	)	A/Director Procurement Services.....
	)	Position of authorised representative

Schedule 1 – Requirements

The Supplier must provide the Goods and/or Services to Customers, in accordance with the Requirements described in this Schedule.

1. Background

(a) Queensland Fire and Emergency Services, State Air Operations Units (QFES SAOU) has historically only used foam and gel products in aerial firefighting operations.

(b) Since the Premier of Queensland announced in February 2020 the introduction of a Large Air Tanker (LAT) into Queensland contracted fleet, QFES has had Fire Retardant authorised for use within Queensland. This aircraft type is extensively used by other State and Territories to produce fire suppressant breaks.

(c) QFES SAOU have a long-term requirement for aerial firefighting operations. QFES SAOU intends to ensure that aerial suppressant products that have been supported by the Australasian Fire and Emergency Service Authorities Council (AFAC) assessment processes, as well as approvals and conditions from the Department of Environment and Science (DES) are available during the Queensland fire season.

(d) The products are required to be not only environmentally friendly, but effective as suppressants and usable in all aircraft types as assessed by the US Department of Agriculture, Qualified Products List (USDA QPL).

2. Scope

(a) QFES is seeking to establish a Standing Offer Arrangement/s (SOA) for the supply of Retardant, Gel and Class A Foam for aerial firefighting operations.

3. Support for Government objectives

Queensland Fire and Emergency Services seeks to attract highly credible Suppliers, large, medium and small, that are able to demonstrate a commitment to the objectives, targets and commitments outlined in the Queensland Procurement Policy (QPP).

This means Suppliers capable of:

- delivering value for money in economic, social and environmental terms;
- demonstrating commitment to involvement with Social Enterprises and Indigenous Queenslanders;
- demonstrating commitment to Social Responsibility including but not limited to Environmental Sustainability practices;
- supporting a zero tolerance to domestic and family violence in the workplace and the broader community; and
- supporting local and regional economies.

Suppliers are required to ensure that any commitments outlined in their Part C: ITO Response Schedules are maintained for the SOA Term.

As part of their Response, Suppliers are required to provide information regarding their support for the principles of the QPP (refer to Part C: ITO Response Schedule, Section 7).

4. Mandatory requirements

(a) The Supplier must meet the following mandatory requirements:

(i) Suppliers Compliance with QLD Government Ethical Supplier Threshold

(ii) Workers Compensation Insurance

(iii) Public & Product Liability Insurance (minimum $10m)

(iv) Professional Indemnity Insurance (minimum $10m)

(v) Goods in Transit Insurance (minimum $300,000.00)

5. Legislative requirements

(a) The Supplier will comply with all Federal, State and Local Government legislative requirements including:

(i) The *Information Privacy Act 2009* and applicable privacy codes (as defined in that Act);

(ii) The *Commonwealth Disability Discrimination Act 1992;*

(iii) The *Labour Hire Licensing Act 2017; and*

(iv) *Work Health and Safety Act 2011*

Other Requirements

6. Specifications

(a) Please refer to Appendix A & B Specifications.

7. Area of supply

(a) Items will be ordered on an as-needed basis for delivery directly to various QFES locations. Delivery charges for locations will be quoted per order, prior to a formal QFES purchase order being raised.

(b) The Supplier will abide by individual Customers' delivery instructions. These instructions may include, but are not limited to, delivery addresses and dates and times that deliveries are not to occur. It is preferable all SOA Orders are delivered in full within the agreed timeframes. Back orders and/or part orders are at the

discretion of the individual Customer. The Supplier is required to indicate to the Customer at the time of ordering if freight charges are applicable to back orders.

(c) The Supplier is to have the ability to supply goods and/or services to Eligible Customers within the following regions:

(i) Metropolitan;

(ii) North Coast;

(iii) South East;

(iv) Darling Downs South West;

(v) Central Queensland;

(vi) North Queensland; and/or

(vii) Far North Queensland

The geographical boundaries of regions are identified as the Queensland Fire and Emergency Services Regions found at https://www.qfes.qld.gov.au/contact-us/find-us.

8. Warranties and returns

(a) Suppliers are requested to provide warrant details for all products. All warranties are to be clearly stated.

(b) The supplier must replace at their own cost, where the equipment is

I. Not safe for the intended use;

II. Missing any required part;

III. Not labelled correctly;

IV. Not performing to specification;

V. Modified from specification without prior written agreement from QFES;

VI. Not in new condition;

VII. Not covered under the manufacturer's warranty.

(c) The Supplier must, at their own cost collect from the location nominated by the Principal, any items returned for reasons including:

I. Oversupply;

II. An incorrect item supplied;

III. Products received that have been damaged in transit;

IV. Delivery to an incorrect address.

9. Goods recall

(a) Should any Goods supplied under this SOA be withdrawn from distribution, recalled by the manufacturer, or otherwise found not suitable for use, the Supplier is to contact the Principal immediately to arrange a meeting with the Principal and establish procedures for goods recall, which would include as a minimum:

(i) urgent communication to all recipients of the Goods (all communication will be required to be approved by the Principal prior to release);

(ii) Goods recall process; and

(iii) replacement or credit for the cost of the affected Goods.

10. Communications and marketing

(a) The Supplier is expected to generate business through marketing goods and services on the SOA to Eligible Customers as an SOA Supplier in accordance with the SOA Details.

(b) Any materials, product launches or events that promote the Supplier's status as a Supplier on the SOA, or is directed to departmental staff, is to be approved by the Principal prior to release.

Schedule 2 – Price and Payment Terms

This Schedule describes the Price and Payment terms under the SOA. The Customer and Supplier may not amend this section in a contract but may agree additional pricing details in a particular contract.

1. Prices

(a) Pricing is to be provided in Australian Dollars, exclusive of GST and inclusive of GST.

(b) Prices will be consistent regardless of the location of the Customer (excluding delivery charges).

(c) The Supplier's Prices may be published on the Queensland Contracts Directory or the Principal's intranet for the information of Eligible Customers and may include comparison (side by side).

(d) The Supplier will ensure all orders placed by Customers receive agreed SOA Prices regardless of whether the SOA is quoted on the SOA Order or not.

(e) If more favourable Prices are offered by the Supplier to the same Customers through, for example, special discounts or offers offered for a defined period of time, then the same prices and conditions are to be applied to any SOA Orders raised by Customers in that time period.

(f) The Principal is to be able to demonstrate clear benefits arising from establishment and management of the SOA. The Supplier is therefore required to ensure that pricing charged under the SOA is demonstrably better than non-SOA pricing.

(g) The Principal's SOA Manager will conduct random audits of reporting and/or invoices from different Regions to ensure SOA pricing is applied and to ensure consistent application of SOA pricing across all Regions services.

(h) The Supplier is to disclose all fees (including corporate card fees) associated with the supply of Goods and/or delivery of the Services. Fees that are not disclosed may not be applied during the Term of the SOA without the express written approval of the Principal.

(i) The Supplier will itemise all amounts that the Customer is to pay in relation to any Contract, as well as totals. The Supplier is to identify the pricing method (e.g. lump sum, fixed price, time and materials, including rate cards – unless otherwise specified in the SOA). The GST component is to be separately identified.

(j) The Supplier will provide Prices to Eligible Customers as detailed in the following Pricing Table.

Item	Unit of measure	Unit Price AUD (GST Excl)	GST	Total Price AUD (GST Incl)
Phos-Chek LC95A-Fx (MV) Medium Viscosity	1000 litre IBC	$9,755.26	$975.53	$10,730.79
Phos-Chek WD881A Class A Foam 1-31 pails	20 litre pail	$235.94	$23.59	$259.53
Phos-Chek WD881A Class A Foam	1000 litre tote	$8,743.12	$874.31	$9,617.43
Phos-Chek WD881A Class A Foam, 20 litre x 32 pails	Pallet	$5,921.60	$592.16	$6,513.76
Freight quoted at time of order				

2. Price variation

(a) The Supplier will hold SOA Prices to Eligible Customers for twelve (12) from the start date in the SOA Details. Following the initial fixed 12-month term, Prices may only be varied once in each twelve (12) month period of operation of the SOA. Price variations may be submitted by the Supplier in 30 days prior to the anniversary date of the SOA for consideration by the Principal.

(b) The Supplier is to submit requests for variation to Prices in writing to the Principal. The Principal is to agree in writing before the Price variation can be implemented and communicated with Eligible Customers.

(c) The Supplier is to submit requests for variation to Prices in accordance with the following agreed conditions.

Exchange rate	
Fixed period (e.g., 12 months)	12 Months
Pricing review period (e.g., Annually)	Annual, 1st August
Percentage of Offered Price subject to Variation due to exchange rate	95%
Date and Exchange Rate	USD 0.6775 as at 8th May 2023
Source	Reserve Bank of Australia

Price variation due to variations in exchange rate

The following formula will be used to vary the exchange rate:

$$Pn = Po\left[1 + f\left[\frac{(xo - xn)}{xn}\right]\right.$$

Pn = price new

Po = price offered

f = percentage of offered price subject to exchange rate

xn = exchange rate (new)

xo = exchange rate (old – base rate)

NOTE: F cannot be 100%

Consumer price index	
Fixed period (e.g., 12 months)	12 Months
Pricing review period (e.g., Annually)	Annual, 1st August
Percentage of Offered Price Subject to Variation	95%
Base Index Number	130.8
Date	December 2022
Source (e.g., CPI, ABS Index etc)	Australian Bureau of Statistics, Consumer Price Index, 640101 – Table 1 & 2, Series ID: A2325846C https://www.abs.gov.au/statistics/economy/price-indexes-and-inflation/consumer-price-index-australia/latest-release

Price variation due to variation in consumer price index

The formula that will be used to vary price due to vary in Consumer Price Index is:

$$PN = PO\left[1 + f\frac{(c2 - c1)}{c1}\right]$$

Pn = price new

Po = price offered

f = percentage of offered price subject to CPI

c1 = CPI (old – base rate)

c2 = CPI (new)

NOTE: f cannot be 100%

Additional Notes

Class A Foam

Will be subject to CPI and Exchange Rate.

Retardant

Retardant will be subject to USFS Contract Pricing pegged at Exchange Rate on 1st August each year. (Currency set in advance of season (August) as per IMF representative exchange rate, this will be triggered by +/- 5% movements in currency).

The Retardant contract pricing offered is the AFAC pricing structure that utilises the United States Department of Agriculture – USFS purchasing agreement with Perimeter Solutions at the exchange rate as pegged on 1st August each year. This allows the AFAC agencies (large users and small users) to hold the same buying power as one – and at the same buying power as USFS for ROD (request on demand).

3. Payment terms/invoice frequency (as applicable)

(a) The Supplier will provide 30 day payment terms to all Eligible Customers without the need to submit a credit application unless the Supplier is a small business (fewer than 20 employees). If the Supplier is a small business and registered as a small business on the On-Time Payment Small Business Register, then the Supplier will provide 20 day payment terms to all Eligible Customers without the need to submit a credit application.

(b) The Supplier will provide a correctly rendered tax invoice within 5 days of delivering the Goods and/or Services to the Customer.

(c) Invoicing and payment are to be made to the Supplier in accordance with the Prices referenced in this Schedule 2 – Price and Payment terms.

(d) The Supplier will provide payment method of electronic funds transfer.

4. Discounts or rebates

(a) Nil.

5. Other pricing details

(b) Pricing provided is based on despatching from Lavington NSW and freight costs to be quoted for each purchase order.

Schedule 3 – Performance measurement and review

This Schedule describes how the Supplier's performance will be measured and reviewed during the Term of the SOA.

1. Key performance indicators/service levels

(a) The Key Performance Indicators (KPIs), which are used to measure Supplier's performance throughout the SOA Term, include, but are not limited to the following:

Ref	Service Level	What is measured	How is it measured	Frequency of measurement	Who is Responsible	Performance Target
1	Delivery	To ensure goods are delivered within agreed timeframes for on-going stock and emergency stock.	Actual delivery against agreed timeframes	Annually	Contract Manager	95%
2	Invoicing	To ensure Supplier's invoices are accurate and match the purchase order/s.	Against Purchase Orders	Annually	Contract manager	95%

2. Performance management

(a) Where the Supplier fails to meet the KPIs or has not complied with the terms and conditions, the following non-performance management procedures apply:

(i) Upon one failure, the Supplier is to provide the Principal with a list of rectification actions and a timeline for implementing these rectification actions.

(ii) For a second or continued failure, the Supplier is to provide details of preventative actions and a timeline for implementing the preventative actions. The matter will be escalated to senior management of both the Principal and the Supplier for resolution.

Schedule 4 – SOA governance

This Schedule sets out governance arrangements at the SOA level. The Customer and Supplier may not amend this section in a Contract established under this SOA but may agree additional governance requirements for a particular Contract.

1. SOA management

(a) The Supplier is required to establish a primary and secondary point of contact (Account Manager) responsible for managing the SOA and resolution of all matters of warranty, delivery, issues and disputes. The Supplier's Account Manager will liaise with the Principal, provide reports and attend SOA management meetings as required. The Supplier will notify the Principal within 10 Business Days should there be a change in the Supplier's Account Manager.

(b) The Supplier is required to meet with the Principal as agreed between the Parties to:

(i) Review the provision of Goods and/or Services; and

(ii) Negotiate proposed amendment to the Goods and/or Services.

(c) The Supplier must attend meetings via electronic mediums, such as Microsoft Teams or other sites as agreed when requested by the Customer at a mutually agreed time and location.

2. SOA implementation

(a) The Supplier will implement the SOA immediately following signing of the SOA Details. The Supplier is expected to have the capability to provide the Goods and/or Services to Customers from the SOA Term start date.

(b) Implementation will, at a minimum, cover the following:

(i) Attendance at a formal SOA award meeting if requested by the Principal within four (4) weeks of the SOA Term start date;

(ii) Establishing ordering methods available under the SOA;

(iii) Implementation of procedures for the collection of data relating to SOA KPIs;

(iv) Establishment of methods of support that will be available to Eligible Customers under the SOA.

(c) The Principal, if requested, will work with the Supplier to assist in the development of required skill sets regarding understanding the SOA, implementing the SOA and formatting of reporting requirements.

3. Complaints and escalation of SOA issues

3.1 Customer Complaints

(a) Complaints in respect of faulty Goods, Service delivery and other issues will be directed in the first instance by the Customer to the Supplier. The Supplier's Account Manager will liaise with the Customer no later than five (5) Business Days after receiving notification of the complaint. Any complaints that are not resolved to the Customer's satisfaction will be escalated to the Principal's SOA Manager for action.

(b) If any issues cannot be resolved between the Supplier and Customer key contacts, the issue may be escalated to the Director, Procurement Services.

3.2 Supplier Complaints

(a) If at any time during the Term of the SOA the Supplier considers that it has been unreasonably or unfairly treated and has not been able to resolve the issue with the Principal's contact person, the Supplier may request for the issue to be dealt with in accordance with the Principal's complaint management procedure by contacting:

Complaint Management	
Position	Director Procurement Services
Agency	Queensland Fire and Emergency Services
Email	QFES.PSG@qfes.qld.gov.au

Schedule 5 – Placing SOA orders

A Contract is created under the SOA when the Supplier and an Eligible Customer agree the commercial details relevant to a Contract using the ordering processes outlined in this Schedule. The conditions applicable to orders placed under the SOA are General Contract Conditions.

1. SOA orders

(a) All SOA Orders placed by Eligible Customers will receive SOA Prices regardless of whether the SOA is quoted on the SOA Order or not. The Supplier is required to treat any SOA Order placed by a party as defined in this Schedule 5 as being placed by an Eligible Customer and apply SOA Prices accordingly.

(b) The SOA order relates only to the particular Contract. Nothing in an SOA order can modify or affect:

(i) The SOA between the Principal and the Supplier;

(ii) The Contract terms which have been pre-determined by the Principal and the Supplier in the SOA to apply to all Contracts established under the SOA; or

(iii) Any other Contracts that may be agreed under the same SOA.

2. SOA ordering methods

(a) SOA Orders may be placed by Eligible Customers using the following ordering methods:

(i) Request for Quote (RFQ) process resulting in a basic order or contract being formed;

(ii) purchase order (PO).

3. Minimum details for SOA orders

(a) The SOA and Contract each refer back to the SOA Order for important commercial information. A Purchase Order will be issued with the following information:

(i) SOA number;

(ii) Customer details (name and contact details);

(iii) Customer requirements;

(iv) Applicable timetable (time for performance of Services or delivery requirements, as applicable);

(v) Site / delivery address;

(vi) Price payable or payment terms (calculated in accordance with the SOA details); and

4. Delivery and packaging

(a) The Supplier will abide by individual Customers' delivery instructions. These instructions may include, but are not limited to, delivery addresses and dates and times that deliveries are not to occur. It is preferable that all SOA Orders are delivered in full within the agreed timeframes. Backorders and/or part orders are at the discretion of the individual Customer. The Supplier is required to indicate to the Customer at the time of ordering if freight charges are applicable to backorders.

(b) Delivery is to occur during the Business Day unless a prior agreement has been obtained from the individual Customer.

(c) Delivery would usually occur on business days, however during high activity operations consideration to 24/7 delivery will be required.

Appendix A Specification Retardants and Gels

QUEENSLAND FIRE AND EMERGENCY SERVICES SPECIFICATION

for

QFES300102 Aerial Firefighting Suppressants – Retardants and Gel

State Air Operations Unit
V1.0 9 March 2023

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PART 1 GENERAL REQUIREMENTS

1.1 OVERVIEW

1.1.1 The purpose of this specification is to provide the Queensland Fire and Emergency Services (QFES) with retardants and gels for wildland firefighting. Australasian Fire Authorities Council (AFAC) members may purchase from this contract.

1.1.2 The document outlines the functional and technical requirements for the fireretardant or gel firefighting concentrate used in aerial fire suppression.

1.1.3 Only products meeting the standards and requirements of this document maybe considered for practical trial to ensure compatibility with equipment in use with QFES.

1.1.4 QFES applies retardants from a few minutes to a few days for both indirect and direct fire suppression and may at times be applied in advance of the fire impacting.

1.1.5 QFES requires a concentrate that will meet with their aviation fire suppression operational requirements.

1.1.6 QFES will only consider products that meet environmental standards,as specified.

1.1.7 The function of retardants and gels is to increase the efficiency and effectiveuse of water by:

a) Better penetration of canopy tops,
b) Less damage to environment,
c) Extinguish the fire quicker,
d) Reduce the chance of re-ignition,
e) Suppress or delay flame propagation,
f) Suppress or delay combustion of material.

1.2 SCOPE

1.2.1 The current drop time of retardants until the fire front reaches the drop zone can be from minutes up to 3 days (72 hours). Therefore, the products tendered as part of this specification are required to be effective for up to 3 days (72 hours), though in most cases the time frames are most likely within a 24-hour period.

1.2.2 The tendered product shall be certified to the referenced standards in the Part 2 - Specifications and Performance Requirements and must comply with this specification.

1.2.3 All tender responses must include current test certificates and test reports. Current test certification shall not be older than 2 years for the items tendered and must be maintained for the duration of the contract.

1.2.4 Test criteria have been identified within this specification as performance measures for use in the assessment of products tendered, as well as over the contract period. Those products that meet the criteria will be assessed, and any products that only partially meet the test criteria may be considered and can be subject to innovation initiatives during the contract period.

1.3 REFERENCED STANDARDS & DOCUMENTS

1.3.1 Nothing in this specification shall be construed to waive or modify any obligations imposed by the Work Health and Safety Act 2011 (incl. any subsequent Legislation or Regulations), and/or any other relevant Australian or QLD Acts, Regulations, and Legislation.

1.3.2 Tenderers shall familiarise themselves with the requirements of the following publications and shall take them into account in their designs and submissions:

a) National Standard of Manual Handling (NOHSC: 2005; 1990).
b) QLD Work Health & Safety Act 2011 and Regulation 2011.
c) National Code of Practice for the Preparation of Material Safety DataSheets for Hazardous Chemicals February 2016, Safework Australia.
d) Classifying hazardous chemicals – National Guide August 2018,Safework Australia.
e) United States Department of Agriculture – Forest Service (USDAFS)Specification 5100-304c.
f) United States Department of Agriculture – Forest Service (USDAFS)Specification 5100-306a.
g) US EPA – OPPTS 850.1075 Fish Acute Toxicity Test, Freshwater andMarine.
h) US EPA – OPPTS 870.1100 Acute Oral Toxicity.
i) US EPA – OPPTS 870.2400 Acute Eye Irritation.
j) US EPA – OPPTS 870.2500 Acute Dermal Irritation.
k) US EPA – OPPTS 870.1200 Acute Dermal Toxicity.
l) US EPA – OPPTS 870.1300 Acute Inhalation Toxicity.
m) US EPA – OPPTS 835.3110 Ready Biodegradability.
n) ISO 9001 series Quality Management Systems (as applicable tomanufacturing processes).

1.4 DEFINITIONS

1.4.1 The definitions shall be as those outlined in the relevant standards in Part 2 of this specification.

1.5 RESEARCH AND DEVELOPMENT (R&D)

1.5.1 At any time during the contract period the QFES may undertake a program of reviewing, enhancing or developing the current product or new products to mitigate an identified risk and or developing new items of firefighting foams, chemicals, gels and other retardant products.

1.5.2 Innovative R&D can be undertaken to progress towards alternative products that are non-cumulative, non-persistent and with very low environmental toxicity.

1.5.3 The R&D may be undertaken by the contracted supplier or may be with another party or parties.

1.5.4 Other types of similar items are or may be required for QFES additional tasks. The Contractor may be required to source and / or supply items that meet the QFES requirements, examples of which are but not limited to firefighting foams, chemicals, and any other retardant products.

PART 2 SPECIFICATIONS AND PERFORMANCE REQUIREMENTS

2.1 GENERAL REQUIREMENTS

2.1.1 The specification excludes concentrates and products containing any fluorinated chemicals, including PFAS and other known environmentally persistent chemicals.

2.1.2 The chemicals and components shall be registered with the National Industrial Chemicals Notification and Assessment Scheme (NICNAS).

2.1.3 The product shall be certified by a National Association of Testing Authorities Australia (NATA), Government, University independent third party, or other internationally authorised independent laboratory.

2.1.4 The retardants and gels shall comply with this specification and be certified to Standards and requirements below or any other recognized standard:

a) United States Department of Agriculture – Forest Service (USDAFS) Specification 5100-304c (Retardants), Forest Service (USDAFS) Specification 5100-304d (Long-term Retardants) and/or United States Department of Agriculture – Forest Service (USDAFS) Specification 5100-306b (Gels).
b) ISO 9000 series Quality Management Systems.
c) US EPA – OPPTS 850.1075 Fish Acute Toxicity Test, Freshwater andMarine.
d) US EPA – OPPTS 870.1100 Acute Oral Toxicity.
e) US EPA – OPPTS 870.2400 Acute Eye Irritation.
f) US EPA – OPPTS 870.2500 Acute Dermal Irritation.
g) US EPA – OPPTS 870.1200 Acute Dermal Toxicity.
h) US EPA – OPPTS 870.1300 Acute Inhalation Toxicity.
i) US EPA – OPPTS 835.3110 Ready Biodegradability.

2.1.5 The product will be subject for endorsement by the Department of Environment and Science, Queensland

2.1.6 The retardant and gel products shall be an approved product on the USDAFS Qualified Products List (QPL).

2.1.7 The concentrate shall be compatible with all grades of water quality (turbid, grey, brackish, saline, etc.) used in firefighting. Variations in water quality shall have minimal effect on the quality of finished product.

2.1.8 Performance Criteria (Chemical and Physical Testing):

a) Density – the density of the gel or retardant solution, when mixed appropriately, shall be determined in accordance with ASTM D1298 and reported by the manufacturer.
b) Viscosity – shall meet the appropriate clauses in USDAFS standard.
c) pH Value – shall meet the appropriate clauses in USDAFS standard.
d) Critical Application Rate – the manufacturer will provide the recommended critical rate of application of the product.
e) USDA Forest Services “Wildland Fire Chemicals Test Procedures”

2.2 CORROSIVE EFFECT ON METALS

2.2.1 The manufacturer shall provide evidence that gel or retardant solution, when mixed appropriately, will not cause adverse corrosive effects on metals and non-metals. When tested the gel or retardant solution, shall comply with the levels required in USDAFS standard. Any deposits or residue caused by the retardant solution shall be easily removable by washing with water. Any degree of discolouration, staining, and pitting shall be reported to the QFES.

2.3 PERCENTAGE DETERMINATION

2.3.1 During normal operations (or equipment maintenance) the retardant solution percentage is required to be determined using a hand-held Refractometer. The retardant concentrate shall be such as to enable the refractive index of the solution to be measured. Other viable alternatives are conductivity meters, or specialized versions of measurement systems with calibration adjustment. Methodology to be supplied with tender submission.

2.4 ENVIRONMENTAL AND HEALTH SAFETY

2.4.1 Product Formulation Disclosure – Under a confidentiality and disclosure agreement (CDA) the manufacturer will disclose all chemicals being used in the formulation including trade name, chemical name and CAS number (APPENDIX C). Further detail may be requested.

2.4.2 Analysis of gel or retardant solution Composition by Total Oxidizable Precursor Assay (TOPA) - A sample will be taken by a qualified reputable local laboratory nominated by QFES for a TOPA test to determine the presence of any C2 to C20+ fluorinated molecules to determine if the product is truly fluor surfactant free. QFES reserves the right to periodically audit test sample of successfully tendered products to assure consistency in gel or retardant products supplied under contract.

2.4.3 Total Organic Fluorine (TOF) Content – A sample will be taken by a qualified reputable local laboratory nominated by QFES for a Total Organic Fluorine (TOF) analysis test to determine the presence of any organic fluorine compounds that may fall outside of the typical population of identified by a TOPA analysis. This analysis is designed to capture any new sources of organic fluorine that may appear on the market as a potential firefighting gel or retardant additive.

2.4.4 When tested the gel or retardant solution, shall comply with the levels required in USDAFS standard for biodegradability and/or Qld DES requirements.

2.4.5 When tested the gel or retardant solution, shall comply with the levels required in USDAFS standard for land and aquatic species toxicity and/or Qld DES requirements.

2.5 HEALTH AND SAFETY TESTING REQUIREMENTS

2.5.1 The gel and retardant solution are not to present hazards to personnel when used for its intended purpose. The manufacturer is to provide evidence of the degree of toxicity of the product being tendered.

2.5.2 The tenderer will provide laboratory test summaries from a reputable qualified and certified third-party laboratory (as outlined in Section 1.3) for Toxicological Testing for:

a) Single Dose Oral Toxicity
b) Acute Eye Irritation
c) Acute Primary Dermal Irritation

2.5.3 Through services of a NATA certified (or equivalent) third-party laboratory for Environmental Testing, a report will be provided by the gel or retardant manufacturer that determines the suitability of releases of the tendered product into the environment using the methodology of the German Environmental Protection Agency – the Umwelt Bundesamt (UBA). The product is to be determined as conforming to one of the classifications of the water hazard classifications. As of 18 April 2017. There are three water hazard classes (WGK) used by the German Environmental Protection Agency.

- WKG 1: slightly hazardous to water;

- WKG 2: obviously hazardous to water;
- WKG 3: highly hazardous to waters.

2.5.4 The WKG rating should appear on the product SDS and on the label affixed to the product in the instructions section (APPENDIX B). Note that the WKG rating can be found in the European REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) Safety Data Sheet as part of the European protocol.

2.6 INFORMATION TO BE SUPPLIED WITH TENDER

2.6.1 Information to be supplied with the tender response:

a) Manufacturers Name
b) Brand Name
c) Manufacturers recommended critical application rate

2.6.2 Copies of Acceptance Test Certificates/Reports shall be supplied with tender for the following:

a) pH Value
b) Corrosive Effects on Metals

2.6.3 Information to be supplied with Tender:

a) List the Private or Government Laboratories that have conducted thespecified Acceptance Tests.
b) The manufacturer shall provide evidence that the tendered product/s has no detrimental effect on the environment.
c) The manufacturer shall provide evidence that the tendered product/s does not present a toxicity hazard.
d) The manufacturer shall provide European REACH and National Occupational Health and Safety Commissions Safety Data Sheets forthe tendered retardant.
e) The manufacturer shall state what quality system they have in place.

2.6.4 The manufacturer shall also provide documented evidence through an approved testing authority the results of all tests as outlined in Table I.

2.6.5 Tenders shall have their products tested to the requirements as listed within Clause 2.12 and shall submit their results with the tender responses.

2.6.6 Content and format of training to be provided.

2.7 MIXING SYSTEMS AND APPLICATION RATE

2.7.1 Tenderers shall give a clear and concise description, of the mixing and delivery systems that are required to support their tendered gel or retardant product/s.

2.7.2 Additional information in the form of concise videos and/or other presentations will be required. This should align to the information as provided within the ‘Training, Maintenance and Use’ information as outlined within Section 2.15 of this specification.

2.7.3 Tenderers in their tender replies shall supply the Manufacturer’s application rates in litres/metre squared for Australian vegetation found in the State of Queensland.

2.7.4 Tenderers shall advise if their stated mixing ratio varies dependent on water quality.

2.8 SAFETY DATA SHEETS

2.8.1 Safety Data Sheets (SDS) that includes compliance with relevant clauses within the WHS Legislation, WHS regulations and SafeWork Australia Codes of Practice shall be included in the response. An 'all weather' Australian SDS shall be provided with every delivery to QFES.

2.8.2 Safety Data Sheets shall comply with:

a) National Code of Practice for the Preparation of Material Safety DataSheets for Hazardous Chemicals February 2016, Safework Australia.
b) Classifying hazardous chemicals – National Guide August 2018,Safework Australia.

2.8.3 A current European REACH SDS shall also be provided with the tender response.

2.9 QUALITY ASSURANCE SYSTEMS

2.9.1 The Contractor shall have ISO9000 series (as applicable to manufacturing processes) registration, maintain effective control of the quality of supplies and/or services (including sub-contracts), and perform all examinations and tests stated in the contract to demonstrate conformance of supplies and/or services to the technical requirements of the contract and shall offer for acceptance only supplies and/or services that conform to these requirements.

2.9.2 The Contractor shall be responsible for the provision of objective evidence that controls, and inspections are effective.

2.9.3 QFES reserves the right to perform any examinations or tests to ensure that supplies and/or services conform to the technical requirements of the contract.

2.9.4 Batch testing is the responsibility of the Contractor. Every batch manufactured shall be subjected to batch testing (as per Table I – Summary of Requirements) by an approved and authorised laboratory (as per Section 2.1.3). Each batch supplied will have a certificate of conformance to verify compliance to this specification.

2.9.5 If the batch fails to pass any of the performance test results as negotiated and specified within the contract period, the batch shall be rejected.

2.9.6 Any additional certified fire performance certificate/s from a recognized certified fire test authority that may assist QFES in making a decision on the acceptability of a tendered product.

TABLE I - SUMMARY OF REQUIREMENTS:

Number	Requirement	Class of Defects	Qualification Testing	Batch Testing
1.	Density	Minor	Yes	Yes
2.	Viscosity	Minor	Yes	Yes
3.	Corrosive Effects on Non-metals	Minor	Yes	Yes
4.	pH Value	Major	Yes	Yes
5.	Corrosive Effects on Metals	Major	Yes	No
6.	Toxicity	Critical	Yes	No

2.10 PACKAGING

2.10.1 Size and Capacities - QFES requires delivery of the gel or retardant product/s in at least one of the container formats outlined below.

2.10.2 1000 Litres IBC/ Containers:

a) Shall be in the 1000 litres palletised Intermediate Bulk Containers (IBC's)cubic steel framed, white/ translucent (natural) in colour, plastic tank withan outlet valve.
b) An IBC shall be of 1000 litres liquid capacity manufactured to comply withthe Federal Office of Road Safety specification – 'Intermediate Bulk Containers for the transport of Dangerous Goods'.
c) The brim fill capacity of an IBC shall be 1000 litres with ullage of between6 and 10%.
d) The footprint of an IBC shall be no greater than an Industry StandardPallet (1150mm long by 1100mm wide).
e) The frame of an IBC shall be a corrosion resistant metal cage with a rigidplastic liner such as Polyethylene.
f) The opening at the top of the IBC shall be a minimum of 100mm diameterand shall be of a screw on type.
g) The bottom outlet of the IBC shall be no smaller than a 38mm femaleBSP "Tee" handle valve.
h) The valve of the IBC shall be recessed into the side of the container.
i) UV rated cover for the IBC is to be included as a price option.

2.10.3 20 litre Drum/ Containers shall:

a) Have a square cross section with dimensions no greater than 275mm deep by 275mm wide and a height of 380mm.
b) Have a liquid capacity of 20 litres.
c) Allow for ullage of approximately 10%.
d) Be sufficiently robust to withstand transport by road, rail, sea and air.
e) Have a pour opening of 50mm nominal inside dimension and have an air leak proof cap.
f) Be stackable and self-supporting when full, to a height of three containers.
g) Be provided with a recessed handle suitable for carrying.
h) Be ultraviolet (UV) stable and capable of being stored in the open environment for a minimum of 5 years.

2.10.4 The tenderer shall state any specific transport/ shipping and other handling requirements including stacking, separation distances, weather proofing, etc.

2.11 MARKINGS

2.11.1 The containers shall carry the same/similar signage label as shown in Appendix 'A'.

2.11.2 Each container's label shall show precautions for safe handling and use.

2.11.3 Each container's label shall show the mixing rates in minimum 5mm height font type Helvetica or similar.

2.11.4 1000 litres totes/ IBC/ containers shall be labelled centrally on all vertical and top surfaces.

2.11.5 Marking of Packages - The primary package shall be indelibly marked with the following minimum information:

a) a distinctive lot or batch number
b) contents by volume
c) the manufacturer's name, initials or trademark of such known character that

the source of manufacture may be readily determined
d) clear and concise directions for proportioning and use
e) the packaging date of the product by the manufacturer.

2.11.6 Additional markings shall be as specified or as approved by QFES.

2.11.7 Self-adhesive labels are acceptable.

2.12 TESTING AND CERTIFICATION

2.12.1 Retardants and gel products shall be tested to:

a) United States Department of Agriculture – Forest Service (USDAFS) Specification 5100-304c or United States Department of Agriculture – Forest Service (USDAFS) Specification 5100-306a.
b) US EPA – OPPTS 850.1075 Fish Acute Toxicity Test, Freshwater and Marine.
c) US EPA – OPPTS 870.1100 Acute Oral Toxicity.
d) US EPA – OPPTS 870.2400 Acute Eye Irritation.
e) US EPA – OPPTS 870.2500 Acute Dermal Irritation.
f) US EPA – OPPTS 870.1200 Acute Dermal Toxicity.
g) US EPA – OPPTS 870.1300 Acute Inhalation Toxicity.
h) US EPA – OPPTS 835.3110 Ready Biodegradability.
i) Composition By Total Oxidizable Precursor Assay (TOPA)
j) Total Organic Fluorine (TOF) Content
k) ISO9000 series (as applicable to manufacturing processes).

2.12.2 Detailed test results shall be provided with the tender response and include values and data. Pass or fail results alone shall not be accepted.

2.12.3 Certification shall be provided with the tender response verifying:

a) All test results, values and data,
b) Compliance with this specification and referenced standards.

2.13 DISPOSAL AND CLEANING

2.13.1 Tenderers shall indicate and offer as a priced option the following:

a) A disposal service for the 1000 litres containers currently used andthose to be supplied, including any remaining product.
b) A cleaning and refilling service for 1000 litres containers.
c) A certificate (or sticker label) that states that the new product suppliedinto the recycled container meets the specification requirements.
d) Disposal requirements for a 1 tonne tote bag and pallet, if relevant.

2.13.2 Tenderers shall offer a proposal for a recycling or rejuvenating service of product that has exceeded the 'Shelf-Life Date'. This 'Shelf-Life Date' and associated conditions shall be submitted with the tender reply.

2.14 EMERGENCY STOCK

2.14.1 Stocks and holdings will be negotiated and subject to the terms and conditions of the contract.

2.14.2 Following negotiation, the tenderer shall confirm in writing that the emergency stock can be delivered in part or total to any location within QLD in twenty-four (24) hours this includes weekends and public holidays.

2.15 TRAINING, CARE, MAINTENANCE AND USE INFORMATION

2.15.1 The contractor shall provide training material for end-users at no cost to QFES. A USB or other multimedia format may be adequate.

2.15.2 Training material shall be pitched for operational firefighters (including Aviation personnel), delivered in a format that can be used to train- the-trainer, and able to be modified to suit QFES requirements.

2.15.3 Training material shall address, as a minimum:

a) Appropriate incidents for retardants and gels application
b) Handling (personal protective clothing to ensure user safety whiledispensing or using concentrates and equipment)
c) Appropriate proportioning rates
d) Operational use
e) Cleaning
f) Storage
g) Management of bulk product
h) Testing
i) Decanting
j) Disposal
k) Recommissioning
l) Safety considerations
m) Environmental issues and precautions
n) Environmental toxicity
o) Biodegradation
p) Contamination.

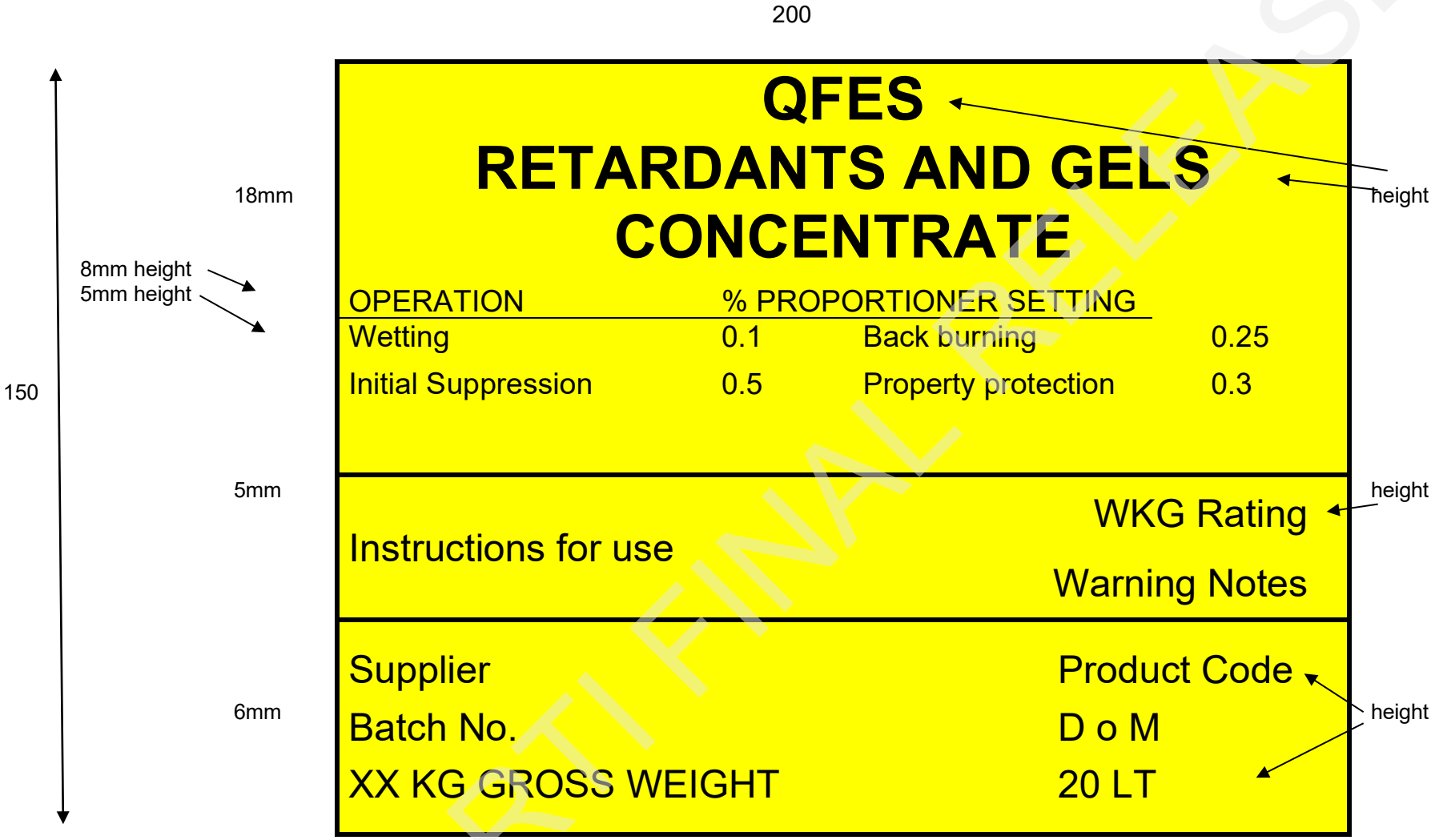
2.15.4 The training content shall be current for the duration of the tender and updated as required.

2.15.5 The content and format of training shall be provided in the tender response.

2.15.6 The contractor shall provide care, maintenance and use information sheets. The format of this maintenance and use information sheet will be discussed between QFES and the contractor.

2.15.7 The labelling should highlight ‘Warning Notes’ outlining high risk care, maintenance and use requirements for personnel.

APPENDIX A: LABELLING (Indicative only)



APPENDIX B: HOW TO CALCULATE GERMAN WATER HAZARD CLASS (WGK) FOR SUBSTANCES AND MIXTURES

Update:2019-01-07 Modified from source: www.chemsafetypro.com

German Water Hazard Class (WGK) sometimes is also called German Water Endangerment Class (WGK). This is often included in the section 15 of SDSs. German's Federal Water Act requires that facilities handling substances that are hazardous to waters must be built and operated in a way that water bodies are protected from pollutions. To this end, the Water Hazard Class (WGK) of a substanceor mixture has to be determined, communicated and documented.

Classification is carried out on the basis of the Ordinance on facilities for handling substances that are hazardous to water of 18 April 2017. There are three water hazard classes (WGK).

1: Slightly hazardous to water;
2: Obviously hazardous to water;3: Highly hazardous to water.

Furthermore, substances can be classified as non-hazardous to water (nwg) or aredeemed hazardous to water in general (awg).
In this article, we will show you how to determine the Water Hazard Class (WGK) for substances and mixtures and how to document them in a compliant way.

How to Determine German Water Hazard Class (WGK) for Substances

For substances, you can search for published WGK classifications directly on UBA'swebsite below. You can search a substance by name, CAS number or EC number.

Substances that are currently not published with a WGK classification in the Bundesanzeiger or on UBA's website are regarded as not classified and must be regarded as highly hazardous to water (WGK 3) for reasons of precaution. Facilityoperators are obliged to self-classify these substances according to Appendix 1 ofAwSV and to submit the WGK documentation to the Umweltbundesamt (UBA).

When you prepare WGK self-classification for an unlisted substance, you must knowits GHS hazard statements and what data is available. They are used to calculate total evaluation points. The WGK will then be determined based on total points.

Total evaluation points (TEP) = Evaluation points based on hazards + Precautionarypoints:

- TEP (0~4): WGK 1
- TEP (4-8): WGK 2
- TEP (>8): WGK 3

Part 1: Evaluation Points Based on Hazard Statements

Hazard statement	Description of the hazard statements	Priority over other hazard statements	Evaluation points
EUH029	Contact with water liberates toxic gas		2
H300	Fatal if swallowed		4
H301	Toxic if swallowed	not considered in addition to H310	3
H302	Harmful if swallowed	not considered in addition to H311 or H310	1
H304	May be fatal if swallowed and enters airways	not considered in addition to H312 and H302	1
H310	Fatal in contact with skin	not considered in addition to H300	4
H311	Toxic in contact with skin	not considered in addition to H301 or H300	3

H312	Harmful in contact with skin	not considered in addition to H302, H301 or H300	1
H340*	May cause genetic defects (specify exposure route if it is conclusively proven that this risk does not present itself with any other exposure route)	not considered in addition to H350	9
H341*	Suspected of causing genetic defects (specify exposure route if it is conclusively proven that this risk does not present itself with any other exposure route)	not considered in addition to H351	2
H350*	May cause cancer (specify exposure route if it is conclusively proven that this risk does not present itself with any otherexposure route)		9
H351*	Suspected of causing cancer (specifyexposure route if it is conclusively proven that this risk does not presentitself with any other exposure route)	not considered in addition to H341	2
H360D	May damage the unborn child	not considered in addition to H360F	4
H360F	May damage fertility		4
H361d	Suspected of damaging the unborn child	not considered in addition to H360F and H361F	2
H361f	Suspected of damaging fertility	not considered in addition to H360D	2
H370*	Causes damage to organs (or specify allaffected organs, if known) (specify exposure route if it is conclusively proven that this risk does not presentitself with any other exposure route)		4
H371*	May cause damage to organs (or specifyall affected organs, if known) (specify exposure route if it is conclusively proven that this risk does not presentitself with any other exposure route)		2
H372*	Causes damage to organs (specify all affected organs) through prolonged or repeated exposure (specify exposure route if it is conclusively proven that this risk does not present itself with any otherexposure route)		4
H373*	May cause damage to organs (specify allaffected organs) through prolonged or repeated exposure (specify exposure route if it is conclusively proven that thisrisk does not present itself with any other exposure route)		2
H400	Very toxic to aquatic life	not considered in addition to H410	6
H410	Very toxic to aquatic life with long-lasting effects		8
H411	Toxic to aquatic life with long-lastingeffects		6
H412	Harmful to aquatic life with long-lasting effects		4
H413	May cause long-lasting harmful effects to aquatic life		3

Part 2: Precautionary Points

- No information concerning acute oral and dermal toxicity: **4** points
- No information concerning effects on the environment: **8** points. The number of precautionary points is reduced by two if proof is furnished that the substance iseasily biodegradable and the potential for bioaccumulation has been ruled out.

- If no risk phrases or hazard statements on effects on the environment are assigned to a substance and there are known tests on the substance's effects onthe environment, the following precautionary points shall be assigned:

  q) **8** precautionary points if a test is known according to which acute toxicity in aspecies of fish (96 h LC50), or species of water flea (48 h LC50), or the inhibition of algae growth (72 h IC50) is not more than 1 mg/l and
  i) there is no proof that the substance is easily biodegradable or
  ii) there is no proof to rule out the potential for bioaccumulation,

  r) **6** precautionary points if a test is known according to which acute toxicity in aspecies of fish (96 h LC50), or species of water flea (48 h LC50), or the inhibition of algae growth (72 h IC50) is more than 1 mg/l but not more than10 mg/l and
  i) there is no proof that the substance is easily biodegradable or
  ii) there is no proof to rule out the potential for bioaccumulation,

  s) **4** precautionary points if a test is known according to which acute toxicity in a species of fish (96 h LC50), or species of water flea (48 h LC50), or the inhibition of algae growth (72 h IC50) is more than 10 mg/l but not more than100 mg/l and there is no proof that the substance is easily biodegradable in bodies of water,

  t) **2** precautionary points if only tests are known according to which acute toxicityin a species of fish (96 h LC50), or species of water flea (48 h LC50), or the inhibition of algae growth (72 h IC50) exceeds 100 mg/l and
  i) there is no proof that the substance is easily biodegradable in bodies ofwater, and
  ii) there is no proof to rule out the potential for bioaccumulation.

Determination of Water Hazard Class (WGK) for Mixture

All mixtures have to be self-classified. WGK classifications of mixtures are not submitted to the Umweltbundesamt. These classifications have to be documented according to Appendix 2 Number 2 or 3 of the AwSV and have to be made availableto the local authorities on request.

The WGK of a mixture should be determined either by using a calculating rule and the WGK of each component of the mixture or on the basis of experimental test datagenerated with the mixture.

To determine the WGK for a mixture, you need to obtain its composition info and determine the WGK for each component first. Then the mass fractions of the individual components are added up by their WGK, and the WGK of the mixture isthen determined according to the table below.

Table 3 – German Water Hazard Class (WGK) for Mixture

Ingredients (components)	Result			
	WGK 3	WGK 2	WGK 1	non-hazardous
WGK 3	≥ 3 %	0.2 to 3 %	< 0.2% in case of additives	< 0.2% (no additives permitted)
WGK 2		≥ 5%	0.2 to 5%	< 0.2%
WGK 1			≥ 3%	< 3%
non-hazardous				
R45 (carcinogenic)	≥ 0.1%	≥ 0.1%, but WGK 2	< 0.1% in case of additives	< 0.1% (no additives permitted)

Components are taken into account if their fraction exceeds the following thresholds:
- 0.1% in the case of carcinogenic substances
- 0.2% in the case of all other substances;
- If carcinogenic substances are actively added to a mixture and their fraction is lessthan 0.1%, the mixture is classified at least into WGK 1;
- the same applies when the fraction of WGK 3 additives is less than 0.2%.

Important: If it is necessary to factor in an M factor in the case of a WHC 2 or WHC 3 substance on account of its high aquatic toxicity, the percentage of thesubstance in question is multiplied by this factor.

Classification of Substances and Mixtures as Non-Hazardous

2.1 Substances

Substances are deemed to be non-hazardous to water if they meet all of the requirements mentioned below:

a) The sum of evaluation points is zero.
b) A liquid substance possesses a water solubility of less than 10 mg/l.
c) A solid substance possesses a water solubility of less than 100 mg/l.
d) There is no known test according to which the acute toxicity in a species of fish(96 h LC50) or species of water flea (48 h EC50) or the inhibition of algae growth (72 h IC50) is below the limit of solubility. Valid tests must have been conducted on two of the aforementioned organisms,
e) A liquid organic substance is easily biodegradable.
f) A solid organic substance is either easily biodegradable or does not have an increased bioaccumulation potential.
g) A substance which is hazardous to water does not originate as a result of easy biodegradability or abiotic degradability.
h) The substance is not a floating liquid substance pursuant to point 1.3.

2.2 Mixtures

Mixtures are deemed to be non-hazardous to water if they meet all of the requirements mentioned below:

a) The content of WHC 1 substances is less than 3 % by mass.
b) The content of WHC 2 substances is less than 0.2 % by mass.
c) The content of WHC 3 substances is less than 0.2 % by mass.
d) The content of unidentified substances is less than 0.2 % by mass.

e) No carcinogenic substances as per point 1.2 were purposefully added to themixture.
f) No substances under WHC 3 were purposefully added to the mixture.
g) No substances with unknown water hazard properties were purposefully addedto the mixture.
h) No dispersants or emulsifiers were purposefully added to the mixture.
i) The mixture does not float in bodies of water situated aboveground.

Note: Floating liquid substances are deemed to be generally hazardous to water.

References
- Introduction to German Water Hazard Class - by UBA
- Overview of AsSV
- AwSV - English Draft

APPENDIX C: PRODUCT FORMULATION DISCLOSURE

C1. Under a confidentiality and disclosure agreement (CDA) the manufacturer will disclose all chemicals being used in the formulation including trade name, chemical name and CAS number. Further detail may be requested.

C2. Please fill out the following form in completeness, photocopy and include in your submission.

C3. Product Formulation Disclosure Form

Company Submitting:	Product Name:	Product ID Number:
Submitted by: Name: Title:	Signature:	Date:
Retardant Concentrate Type:	Use Concentration(s):	Patent and/or Trademark

Ingredient	Proprietary Y/N	Manufacturer	CAS	% bt Wt (Conc)	% by Wt (Solution)	Comments

Appendix B Specification Class A Foam

QUEENSLAND FIRE AND EMERGENCY SERVICES SPECIFICATION

for

QFES300102 Aerial Firefighting Suppressants – Class A Foam

State Air Operations Unit

V1.0 9 March 2023

Contents

PART 1 - GENERAL REQUIREMENTS

1.1 OVERVIEW

1.1.1 This specification details the technical requirements for Class 'A' firefighting foam liquid concentrate to be used for aerial firefighting by the Queensland Fire and Emergency Services (QFES). Class 'A' foam concentrate is carried on firefighting aircraft.

1.1.2 This specification is based on the end user requirements of QFES300102. The concentrate and solution shall be compatible with aircraft foam proportioning and delivery equipment currently in use.

1.1.3 Nothing in this specification shall be construed to waive or modify any obligations imposed by the Work Health and Safety Act 2011 and any subsequent Legislation or Regulations.

1.1.4 Australasian Fire Authorities Council (AFAC) members may purchase from this contract.

1.1.5 QFES will only consider products that meet environmental standards set and require nil clean up after use or application when the fire or threat has passed.

1.2 SCOPE

1.2.1 The Class A foam liquid concentrate is to increase the efficiency and effectiveness of water penetration and extinguishment. The finished foam (water and concentrate) solution will:

a) Have improved wetting qualities
b) Have improved penetration of class A fuels
c) Reduce the time taken to achieve initial knock down
d) Reduce the time taken to completely extinguish fires
e) Reduce the quantity of water required to extinguish fires, minimising waste,and water damage
f) Reduce the risk of re-ignition.

1.2.2 Certification will meet national and/or international wildfire fighting standards such as NFPA 1150: Standard on Foam Chemicals for Fires in Class A Fuels, 2022 Edition as well as to the referenced standards in the Part 2 -Specifications and Performance Requirements and must comply with this specification.

1.2.3 All tender responses must include current test certificates and test reports issued from certified laboratories or testing agencies. Current test certification shall not be older than 2 years for the itemstendered and must be maintained for the duration of the contract.

1.2.4 Test reports and certificates of conformance should also include compliance to each numbered point as 'fully comply', 'partially comply' or'does not comply'. Details of partial or non-compliance should be provided.

1.3 REFERENCED STANDARDS AND DOCUMENTS

1.3.1 The concentrate and associated packaging shall comply with:

a) NFPA 1150: Standard on Foam Chemicals for Fires in Class A Fuels, 2022 Edition United States Department of Agriculture – Forest Service (USDAFS) Specification 5100-307b.
b) US EPA – OPPTS 850.1075 Fish Acute Toxicity Test, Freshwater and Marine.
c) US EPA – OPPTS 870.1100 Acute Oral Toxicity.
d) US EPA – OPPTS 870.2400 Acute Eye Irritation.
e) US EPA – OPPTS 870.2500 Acute Dermal Irritation.
f) US EPA – OPPTS 870.1200 Acute Dermal Toxicity.
g) US EPA – OPPTS 870.1300 Acute Inhalation Toxicity.
h) US EPA – OPPTS 835.3110 Ready Biodegradability.
i) ISO 9000 series Quality Management Systems (as applicable to manufacturing processes).
j) QLD Work Health & Safety Act 2011 and Regulation 2011
k) Safe Work Australia National Standard for Manual Tasks, August 2007

As well as the USDAFS qualified products list (QPL) and any other relevant Australian and QLD Acts, Regulations, and Legislation.

1.4 DEFINITIONS

1.4.1 The definitions shall be as those outlined in the relevant standards as outlined in Part 2 of this specification.

1.5 RESEARCH AND DEVELOPMENT (R&D)

1.5.1 At any time during the contract period the QFES may undertake a program of reviewing, enhancing or developing the current product or new products to mitigate an identified risk.

1.5.2 The R&D may be undertaken by the contracted supplier or may be with another party or parties.

1.5.3 Other types of foams or chemicals are required for QFES additional tasks. The Contractor may be required to source and / or supply foams, chemicals, gels or retardants that meet QFES requirements.

PART 2 SPECIFICATIONS AND PERFORMANCE REQUIREMENTS

2.1 GENERAL SPECIFICATION REQUIREMENTS

2.1.1 The Class A liquid foam concentrate shall be supplied as a singular, stable component for mixing directly with water to produce a solution that is a wetting agent and a foam when aerated.

2.1.2 The solution shall be suitable for extinguishing class A fires such as bushfires and exposure protection.

2.1.3 The concentrate shall be optimised for use in varying ranges 0.1 % to 1.0 % of water volume.

2.1.4 The current Class 'A' Firefighting Foam Liquid Concentrate is used at the following concentrations:

a) 0.1 % for wetting
b) 0.25 % for mop-up
c) 0.5 % for initial suppression
d) 0.75 % for fire breaks
e) 1.0 % for property protection and small flammable liquid spills.

2.1.5 A range of foam characteristics shall be produced by varying the percentage of concentrate mixed and the application method. Lower concentrations shall produce 'wet' water. Medium concentrations shall produce wet, rapidly draining foam. Higher concentrations shall produce drier, slow draining foam.

2.1.6 The foam shall tend to cling to horizontal and vertical surfaces and resist disruption due to wind, heat and flame contact.

2.1.7 The concentrate shall be suitable for - aviation (fixed and rotarywing aircraft – both bucket and tank) application.

2.1.8 The concentrate shall be compatible with all grades of water quality (turbid, grey, brackish, saline, etc.) used in firefighting. Variations in water quality shall have minimal effect on the quality of finished foam.

2.1.9 The concentrate shall be compatible with all fixed and rotary winged aircraft equipment and appliance configurations currently in use. This includes foam transfer pumps, around the pump proportioners, inline eductors, direction injection, balanced proportioners and storage tanks.

2.1.10 The product will be subject for endorsement by the Department of Environment and Science, Queensland (DES).

2.1.11 The foam shall be an approved product on the U.S. Department of Agriculture - Forest Service Qualified Products List (QPL) and NFPA 1150.

2.1.12 The specification excludes concentrates and products containing any fluorinated surfactants or components, including already classified PFAS components, and other known environmentallypersistent and/or cumulative chemicals.

2.2 PERFORMANCE CRITERIA

2.2.1 The foam liquid concentrate shall have a boiling point greater than 95 degrees centigrade at standard atmospheric pressure.

2.2.2 The concentrate shelf life shall not be less than 10 years when stored under Queensland climatic conditions in the specified containers. Shelf life and storage requirements are to be detailed in the tender response.

2.2.3 The manufacturer shall provide evidence that the foam solution, when mixed appropriately, will not cause adverse corrosive effects on metals. When tested, the solution shall comply with the levels required in NFPA Standard 1150. Any deposits or residue caused by the solution shall be easily removable by washing with water. Any degree of discolouration, staining, and pitting shall be reported to QFES.

2.2.4 Performance Criteria (Chemical and Physical Testing):

a) Density – the density of the solution shall be determined in accordance with ASTM D1298 and reported by the manufacturer.

b) Viscosity - NFPA1150 for measurement of viscosity (4.2.2.2 & 5.4.2). This should be measured at the following temperature: 2c +/- 1C; 21C /- 1C; 49C +/- 1C.

c) pH Value - the initial pH value of the solution, as determined by means of an electrometric pH meter using a glass electrode, shall not be less than 7.5, and not greater than 8.5 expressed at 20 ± 1°C.

d) Critical Application Rate - the manufacturer will provide the recommended critical rate of application of the product.

e) Surface tension – in accordance with NFPA 1150 (4.3.3.1) the surface tension should be provided of a solution of 0.1%, 0.5% and 1.0% solutions with water.

f) Foam expansion factor – in accordance with NFPA 1150 (4.4.1) the foam expansion factor of a 1.0% solution.

g) 25% drain time – in accordance with NFPA 1150 (4.4.2) the drain time of a 1.0% solution.

h) Stability of a concentrate – in accordance with NFPA 1150 (5.4.1) with batch testing only requiring conditions of 49C +/- for 48 hours.

2.3 ENVIRONMENTAL, HEALTH AND SAFETY

2.3.1 The concentrate shall be at least 85% biodegradable within twenty-eight (28) days and shall be 100% biodegradable within forty (40) days or as close to forty (40) days as possible.

2.3.2 Environmental Impact - the manufacturer shall provide evidence that the surfactants in the foam concentrate shall not have any detrimental effect or persistent effect in the environment.

2.3.3 The manufacturer must stipulate when and under what conditions that the foam concentrate can be used. The assumption of QFES is that the product has a high potential for escape into the environment, ground water and water ways. The manufacturer shall give instruction on the control of waste from the fire ground and training facilities.

2.3.4 The foam is not to present hazards to personnel when used for its intended purpose. The manufacturer is to provide evidence of the degree of toxicity of the product being tendered (Refer to Section 2.5).

2.3.5 Product Formulation Disclosure – Under a confidentiality and disclosure agreement (CDA) the manufacturer will disclose all chemicals being used in the formulation including trade name, chemical name and CAS number (Appendix B). Further detail may be requested.

2.3.6 Analysis of foam solution: Composition by Total Oxidizable Precursor Assay (TOPA) - A sample will be taken by a qualified person and analysed by a NATA approved laboratory for a TOPA test to determine the presence of any C2to C20+ fluorinated molecules to determine if the product is truly fluorosurfactant free. QFES reserves the right to periodically audit test sample of successfully tendered products to assure consistency in foam products supplied under contract.

2.3.7 Analysis of foam solution: Total Organic Fluorine (TOF) Content – A sample will be taken by a qualified person and analysed by a NATA approved laboratory for a Total Organic Fluorine (TOF) analysis test to determine the presence of any organic fluorine compounds that may fall outside of the typical population of identified by a TOPA analysis. This analysis is designed to capture any new sources of organic fluorine that may appear on the market as a potential firefighting gel or retardant additive.

2.3.8 Biochemical Oxygen Demand (BOD) testing using the methodology US EPA – OPPTS 835.3110 Ready Biodegradability will provide reports produced by an approved laboratory (as per Section 2.5) and the test report shall be provided.

2.4 SAFETY DATA SHEETS

2.4.1 Safety Data Sheets shall comply with:

a) National Code of Practice for the Preparation of Material Safety Data Sheets for Hazardous Chemicals February 2016, Safework Australia.
b) Classifying hazardous chemicals – National Guide August 2018, Safework Australia.

2.4.2 The chemicals and components shall be registered with the National Industrial Chemicals Notification and Assessment Scheme (NICNAS).

2.4.3 A European REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) Safety Data Sheet should be provided.

2.4.4 An ‘all weather’ Australian Safety Data Sheet (SDS) must be provided with every Class A liquid foam concentrate delivery.

2.4.5 The SDS shall include all relevant risk (R) phrases defined by NOHSC: 1008 (2004).

2.4.6 The SDS information shall comply with relevant clauses within the WHS Legislation, WHS regulations and SafeWork Australia Codes of Practice.

2.5 TESTING AND CERTIFICATION

2.5.1 Tenderers shall preferably have an established Quality Management System in place. This should reflect the methodologies for the design/development, manufacture, and supply of firefighting foam products. Suppliers will provide details of the quality system or accreditation in a Technical Schedule.

2.5.2 The Contractor shall have ISO 9000 series (as applicable to the manufacturing processes) registration, maintain effective control of the quality of supplies and/or services (including sub-contracts), and perform all examinations and tests stated in the contract to demonstrate conformance of supplies and/or services to the technical requirements of the contract and shall offer for acceptance only supplies and/or services that conform to these requirements.

2.5.3 The Contractor shall be responsible for the provision of objective evidence that controls, and inspections are effective.

2.5.4 QFES reserves the right to perform any examinations or tests to ensure that supplies and/or services conform to the technical requirements of the contract.

2.5.5 Batch testing is the responsibility of the Contractor. Every batch manufactured shall be subjected to batch testing (as per Table I – Summary of Requirements) by an approved and authorised laboratory (as per Cl. 2.5.8). Each batch supplied will have a certificate of conformance to verify compliance to this specification.

2.5.6 If the batch fails to pass any of the performance test results as negotiated and specified within the contract period, the batch shall be rejected.

2.5.7 Any additional certified fire performance certificate/s from a recognized certified fire test authority that may assist QFES in making a decision on the acceptability of a tendered product.

2.5.8 Testing and certification shall be performed by a NATA accredited facility, a facility accredited by a body with a NATA mutual recognition arrangement, an Australian government laboratory or an Australian university recognised by state, territory or Commonwealth legislation.

2.5.9 Class A foam liquid concentrate and solution/s shall be tested to: -

a) NFPA 1150: Standard on Foam Chemicals for Fires in Class A Fuels,

b) 2017 Edition and/or United States Department of Agriculture – Forest Service (USDAFS) Specification 5100-307b.

c) ASTM D2281 - 10 Standard Test Method for Evaluation of Wetting Agents by the Skein Test (commonly called the 'Drave wetting test').

d) US EPA – OPPTS 850.1075 Fish Acute Toxicity Test, Freshwater and Marine.

e) US EPA – OPPTS 870.1100 Acute Oral Toxicity.

f) US EPA – OPPTS 870.2400 Acute Eye Irritation.

g) US EPA – OPPTS 870.2500 Acute Dermal Irritation.

h) US EPA – OPPTS 870.1200 Acute Dermal Toxicity.

i) US EPA – OPPTS 870.1300 Acute Inhalation Toxicity.

j) US EPA – OPPTS 835.3110 Ready Biodegradability.

k) ISO 9000 series (as applicable to the manufacturing processes).

l) Composition By Total Oxidizable Precursor Assay (TOPA)

m) Total Organic Fluorine (TOF) Content

2.5.10 Full test results shall be provided with the tender response and include values,data, and certification/ test laboratory identifiers. Pass or fail results alone shall not be accepted.

2.5.11 Certification shall be provided with the tender response verifying:

a) All test results, values and data
b) Compliance with this specification and referenced standards.

TABLE I - SUMMARY OF REQUIREMENTS:

Number	Requirement	Class of Defects	Qualification Testing	Batch Testing
1.	Density	Minor	Yes	Yes
2.	Viscosity (of the foam concentrate)	Minor	Yes	Yes
3.	pH Value	Major	Yes	Yes
4.	Corrosive Effects on Metals	Major	Yes	No
5.	Toxicity (US EPA above)	Critical	Yes	No
6.	Surface tension	Minor	Yes	Yes (at 1% only)
7.	Foam expansion factor	Major	Yes	Yes
8.	25% Drain time	Minor	Yes	Yes
9.	Stability of concentrate	Minor	Yes	Yes (48 hrs only)
10.	Total Organic Flourine (TOF) Content	Major	Yes	No
11.	Composition by Total Oxidizable Precursor Assay (TOPA)	Major	Yes	No
12.	Biochemical Oxygen Demand	Major	Yes	No
13.	NFPA 1150	Major	Yes	No
14.	Drave test (ASTM D2281 – 10)	Moderate	Yes	No

2.6 PACKAGING AND EMERGENCY STOCK

2.6.1 Class A foam liquid concentrate shall be supplied in 20 litre and 1000 litre containers.

2.6.2 20 Litre Pail/ Containers shall:

a) Have a square cross section with dimensions no greater than 275mm deepby 275mm wide and a height of 380mm.
b) Have a liquid capacity of 20 litres.
c) Allow for ullage of approximately 10%.

d) Be sufficiently robust to withstand transport by road, rail, sea and air.
e) Have a pour opening of 50mm nominal inside dimension and have an airleak proof cap.
f) Be stackable and self-supporting when full, to a height of three containers.
g) Be provided with a recessed handle suitable for carrying.
h) Be ultraviolet (UV) stable and capable of being stored in the open environment for a minimum of 5 years.

2.6.3 1000 litre Tote/ IBC/ Containers shall:

a) Be palletised Intermediate Bulk Containers (IBC's) with a square footprintnot greater than an Industry Standard Pallet (1150mm long by 1100mm wide).
b) Have a rigid plastic tank (e.g. polyethylene) contained within a corrosion resistant steel cage.
c) Have a liquid capacity of 1000 litres.
d) Have a brim fill capacity of 1000 litres with ullage of between 6 and 10%.
e) Be manufactured to comply with the Federal Office of Road Safety specification – 'Intermediate Bulk Containers for the transport of DangerousGoods'.
f) Have a top opening with a minimum diameter of 100 mm with a screw oncap.
g) Have a recessed bottom outlet with a "Tee" handle valve and a 38 mmfemale BSP threaded connector.
h) UV rated cover for the IBC is to be included as a price option.

2.6.4 Labels/ Markings

a) All containers shall have a label similar to that shown in Appendix A Labelling.
b) The label shall show precautions for safe handling and use.
c) The label shall be green and have white text set in 5mm high Helvetica or similar. The green shall be alike in colour to AS 2700 colour swatch G17 Mint Green or G27 Homebush Green.
d) 20 litre containers shall be labelled on two vertical sides 180 degrees apart.
e) 1000 litre containers shall be labelled centrally on all vertical surfaces andon top.
f) The packaging date of the product by the manufacturer.

2.6.5 Disposal and cleaning - tenderers shall indicate and offer as a priced option the following:

a) A disposal service for the 20 litres containers currently used and those to be supplied, including any remaining product.
b) A cleaning and refilling service of 1000 litres containers.
c) A certificate (or sticker label) that states that the new product supplied into the recycled container meets the specification requirements.

2.6.6 Stocks and holdings, including Emergency Stock, will be negotiated and subject to the terms and conditions of the contract.

2.6.7 Following negotiation, the tenderer shall confirm in writing that the emergency stock can be delivered in part or total to any location within QLD in twenty-four (24) hours this includes weekends and public holidays.

2.7 TRAINING AND MAINTENANCE AND USE INFORMATION

2.7.1 The successful tenderer shall provide training material for end-users at no cost toQFES. A USB or other multimedia format may be adequate.

2.7.2 Training material shall be pitched for operational firefighters, delivered in a formatthat can be used to train-the-trainer and able to be modified to suit QFES requirements.

2.7.3 Training material shall address, as a minimum:

a) Appropriate incidents for foam application
b) Handling (personal protective clothing to ensure user safety while dispensing or using concentrates and equipment)
c) Appropriate proportioning rates
d) Operational use
e) Cleaning
f) Storage
g) Transport
h) Management of bulk product
i) Testing
j) Decanting
k) Disposal
l) Recommissioning
m) Safety considerations
n) Environmental issues and precautions
o) Environmental toxicity
p) Biodegradation
q) Contamination.

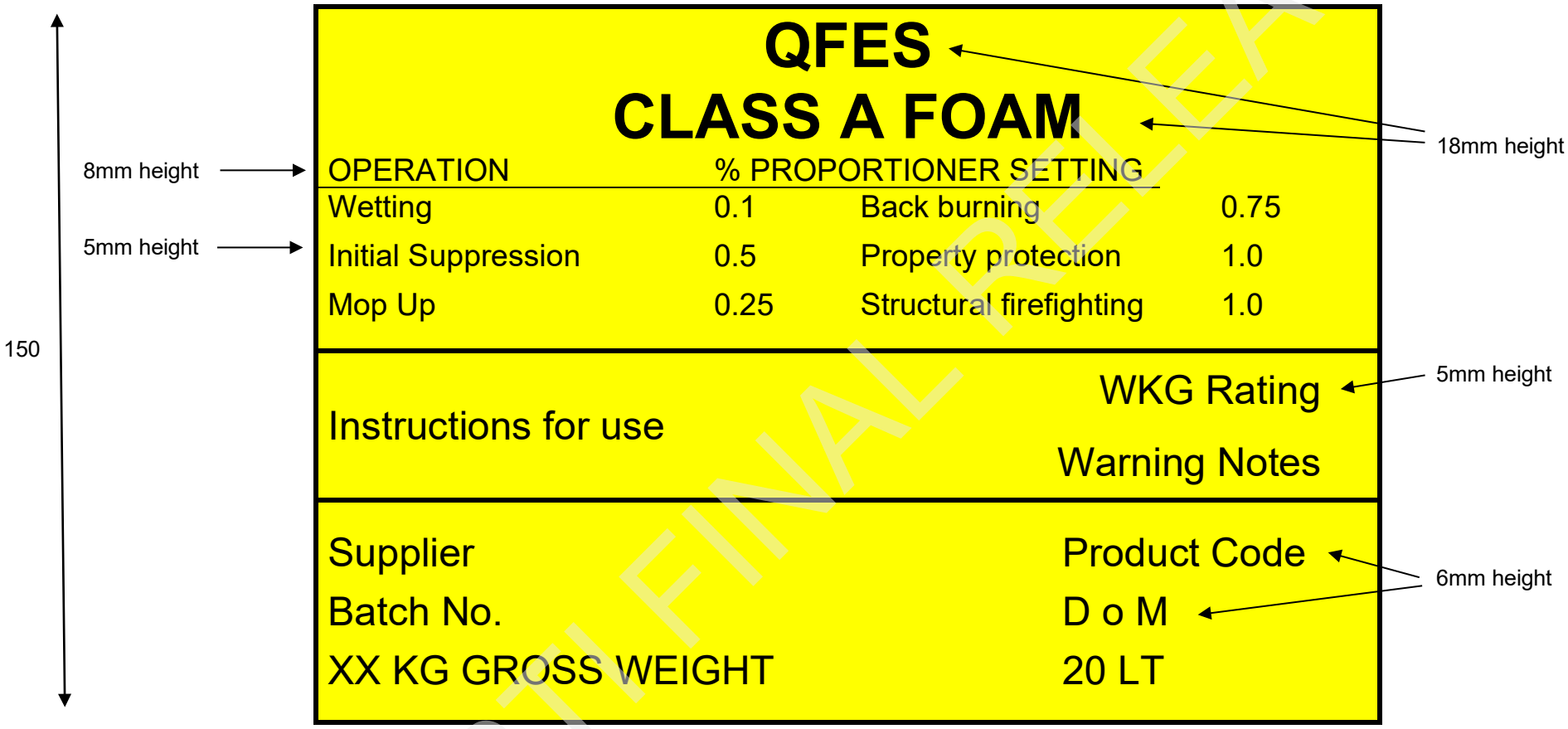
2.7.4 The content shall be current for the duration of the tender and updated as required.

2.7.5 The content and format of training shall be provided in the tender response.

2.7.6 The contractor shall provide care, maintenance and use information sheets. Theformat of this maintenance and use information sheet will be discussed betweenthe QFES and the contractor.

2.7.7 The labelling should highlight 'Warning Notes' outlining high risk care, maintenance and use requirements for personnel.

APPENDIX A: LABELLING (Indicative only)



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C2. Please fill out the following form in completeness, photocopy and include in your submission.

C3. Product Formulation Disclosure Form

Company Submitting:	Product Name:	Product ID Number:
Submitted by: Name: Title:	Signature:	Date:
Retardant Concentrate Type:	Use Concentration(s):	Patent and/or Trademark

Ingredient	Proprietary Y/N	Manufacturer	CAS	% bt Wt (Conc)	% by Wt (Solution)	Comments