



**ENSURE FIRE SAFETY
SAVE PROPERTY
SAVE LIFE**

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ORIENT 5112

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Orient 5112 Clean Agent

Orient 5112 is a trademark of Orient’s FK-5-1-12, Dodecafluoro-2-methylpentan-3-one. FK-5-1-12 is another widely used extinguishing clean agent, an environmentally acceptable, people compatible, clean agent for vital facilities with a wide range of hazards containing A, B, & C classes of fire. Orient 5112 fluid suppresses the fire by removing the heat energy and interrupting the combustion process. It has been approved by US EPA and ISO for its safe characteristic and fire extinguishing effectiveness.

Orient 5112 is an acceptable alternative clean agent for Halon 1301 replacement. Orient 5112 is guaranteed to meet the minimum NFPA 2001 Requirement.

CLEAN AGENT PROPERTIES	
IUPAC Name	1,1,1,2,2,4,5,5,5-Nonafluoro-4-(trifluoromethyl)-3-pentanone
ASHRAE Designation	FK-5-1-12
Synonym	Dodecafluoro-2-methylpentan-3-one
CAS Registry Number	756-13-8
Chemical Formula	CF ₃ CF ₂ C(O)CF(CF ₃) ₂
Molecular Weight	316.04
Freezing Point	-162.4°F (-108°C)
Boiling Point at 760 mmHg	120.2°F (49°C)
Critical Temperature	335.6°F (168.66°C)
Critical Density	39.91 lbm/ft ³ (639.1 kg/m ³)
Critical Pressure	270.44 psi (1,865 kPa)
Critical Volume	0.0251 ft ³ /lbm (494.5 cc/mole)
Viscosity, Liquid at 77°F (25°C)	1.27 lb/ft-hr (0.524 cP)
Solubility in Water at 70°F (21.1°C)	<0.001% by weight
Property	Requirement
Purity	99.0% (minimum)
Water Content (by weight)	0.01%
Non-Volatile Residue (g/100 ml)	0.05
Environmental Impact	
Ozone Depletion Potential (ODP)	0
Global Warming Potential (GWP)	≤1
Atmospheric Lifetime (ATL)	0.014 years
US EPA SNAP (Yes/No)	Yes

Orient 5112 Clean Agent Fire Suppression Systems

Orient 5112 Clean Agent Fire Suppression System utilizes both Pre-Engineered and Engineered Systems. Orient manufactures both the system hardwares and the Clean Agents. Orient carries a full range of cylinders sizes from 3 lbs up to 1200 lbs.

All the cylinders are UL component recognized, DOT & TPED.

Environmental Features

- Very low Global Warming Potential (GWP) of just one
- Atmospheric lifetime of approximately 5 days
- Ozone Depleting Potential (ODP) of Zero
- No post-fire residues to clean up
- No damage to protected equipment
- Is electronically non-conductive
- Safe for use in a wide range of normally occupied hazard areas
- SNAP List Approved

Performance

Orient 5112 Fire Suppression System is a highly-effective clean agent fire suppressant, designed to extinguish a fire in its incipient stage before it has a chance to spread. It is applied as a gas, but is liquid at room temperature, and can be effectively used in streaming, flooding systems, or for use in inerting and explosion suppression applications.

- Low toxicity (no harm to personnel)
- No damage to sensitive equipment
- Not targeted for emission reduction or phaseout

Applications

Despite having a low boiling point, Orient 5112 fluid is able to be effectively vapourised over a wide range of hazard temperatures. It is therefore available to protect most hazards traditionally protected with Halon 1301 and will be particularly important in Marine applications and others where high margins of safety and long term sustainability are considered to be important features.

- Telecommunication Facilities
- Computer Rooms
- Control Rooms
- Shipboard (Marine) Systems
- Libraries
- Automotives
- Engine Rooms
- Universities and Museums
- Art Galleries
- Record & Storage Facilities
- Petrochemical Installations
- Pharmaceutical & Medical Facilities
- Electronics & Data Processing Equipment

