

MINE SEARCH AND RESCUE (SAR) TEAM

DESCRIPTION	A Mine Search and Rescue (SAR) Team conducts search, rescue and recovery in underground mine environments, including active, inactive and abandoned mines.
RESOURCE CATEGORY	Search and Rescue
RESOURCE KIND	Team
OVERALL FUNCTION	<p>The Mine SAR Team:</p> <ol style="list-style-type: none"> 1. Conducts search, rescue and recovery in active and inactive mines environments, as defined by the U.S. Department of Labor's Mine Safety and Health Administration (MSHA) 2. Provides for primary rescue of humans and animals to the nearest location for secondary air or land transport, care and sheltering 3. Provides first aid to include cardiopulmonary resuscitation (CPR) and automated external defibrillator (AED) 4. Operates within the Incident Command System (ICS) 5. Performs ventilation operations 6. Conducts technical rope rescue operations 7. Performs small fire extinguishment operations 8. Uses ground vehicles, watercraft and aircraft for support 9. Operates in environments with and without infrastructure, including those with compromised access to roadways, utilities and transportation or medical facilities; and those with limited availability of shelter, food and water
COMPOSITION AND ORDERING SPECIFICATIONS	<ol style="list-style-type: none"> 1. Discuss logistics for deploying this position, such as working conditions, length of deployment, security, lodging, transportation and meals, prior to deployment 2. Discuss the following items prior to deployment: <ol style="list-style-type: none"> a. Intra-team communications, such as programmable inter-operable communications with Command, General Staff and other supporting resources b. Presence of contaminated environments and need for related personal protective equipment (PPE), respiratory protection, clothing and equipment c. Security and force protection needed upon arrival 3. The requestor should specify additional specialized equipment, such as hardware, software, ropes and survivor evacuation devices 4. The requestor should specify the mission location and operational environment, such as land, wilderness or hazardous materials contamination 5. The requestor should specify additional skills needed for deep or rapidly moving water, sumps or completely water-filled passages 6. The requestor should specify the type of animal rescue, such as livestock and equine, companion, avian, non-domestic and exotic animals 7. The requestor should acquire additional specialized personnel separately, such as advanced medical, Emergency Medical Technician (EMT), paramedic and canine SAR specialist 8. The requestor should acquire secondary land or air transport of rescues separately 9. The requestor should specify or separately acquire additional vehicles, trailers, equipment or supplies such as fuel 10. The requestor should consider the need for additional capabilities or endorsements to address hazards the team may encounter during operations in SAR environments, which may be immediately dangerous to life and health (IDLH), as defined by ASTM International (ASTM) F2890 Standard Guide for Hazard Awareness for Search and Rescue Personnel

Each type of resource builds on the qualifications of the type below it. For example, Type 1 qualifications include the qualifications in Type 2, plus an increase in capability. Type 1 is the highest qualification level.

COMPONENT	TYPE 1	TYPE 2	NOTES
MINIMUM PERSONNEL PER TEAM	7	7	Not Specified

Resource Typing Definition for Mass Search and Rescue Operations Search and Rescue

COMPONENT	TYPE 1	TYPE 2	NOTES
MANAGEMENT AND OVERSIGHT PERSONNEL PER TEAM	1 - NIMS Type 1 Mine SAR Team Leader	1 - National Incident Management System (NIMS) Type 2 Mine SAR Team Leader	Not Specified
SUPPORT PERSONNEL PER TEAM	6 - NIMS Type 1 Mine SAR Technician	6 - NIMS Type 2 Mine SAR Technician	Rapid intervention and logistical support, such as surface operations and communications, may require additional teams
OPERATIONS CAPABILITY PER TEAM	Same as Type 2, PLUS: 1. Conducts search, rescue and recovery in active underground mine environments 2. Firefighting and explosion operations 3. Bulkhead building and timbering operations 4. Post fire/explosion operations	Conducts search, rescue and recovery in inactive underground mine environments	1. All teams are capable of working in or around a mine with a NIMS Type 1 Canine Search Team - Land Live 2. The MSHA defines endorsements necessary for specific mine types
PERSONAL PROTECTIVE EQUIPMENT (PPE) EQUIPMENT PER TEAM MEMBER	Same as Type 2	Minimum PPE consistent with this resource's capabilities and needs, including: 1. Head protection compatible with cap lamps 2. Gloves 3. Flame protective outerwear 4. Footwear appropriate to the environment	1. PPE is mission specific and may vary by working environment; it includes protective footwear, protective clothing for skin exposure, eye and ear protection, respirators, gloves and masks 2. PPE should be equivalent to parameters set forth in American National Standard Institute (ANSI)/American Society of Safety Professionals (ASSP) Z359: Fall Protection Code
TRANSPORTATION EQUIPMENT PER TEAM	Same as Type 2	2 - Vehicle	Vehicles are for transporting team members and equipment and should be 4 wheel drive as the environment requires

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COMPONENT	TYPE 1	TYPE 2	NOTES
GENERAL EQUIPMENT PER TEAM MEMBER	Same as Type 2, PLUS: Equipment including: 1. Entry equipment 2. Fire/explosion suppression 3. Bulkhead building and timbering	<ol style="list-style-type: none"> 1. Technical rope rescue equipment 2. Atmospheric monitors for each type of gas expected and any necessary equipment for testing and sustaining operations 3. Particulate masks and respirators 4. Lockout and tag-out kits 5. Personnel accountability system for surface and entry 6. Rapid intervention crew kit 7. Small fire extinguishment 8. Specialized equipment as needed, such as animal rescue, water entry equipment 9. Access, search, rescue and recovery 10. Patient assessment, treatment and evacuation 11. Ground support for air operations 12. Base and spike camp 13. Entry and escape combination or separate breathing apparatuses: <ol style="list-style-type: none"> a. Breathing apparatus (BA) with at least four hour capacity b. Any necessary equipment for testing and sustaining such BA for eight hours c. Escape breathing device with at least one hour capacity 	Not Specified
COMMUNICATIONS EQUIPMENT PER TEAM MEMBER	Not Applicable	<ol style="list-style-type: none"> 1. Intra-team portable communications 2. Portable radios with ground to air capability 3. Handheld Global Positioning System (GPS) units 4. Mobile phone and waterproof bag 5. Entry to Surface and Surface to Entry Communications that comply with OSHA 29 CFR 1910.146 6. Handi-mikes or ear/headsets 	<ol style="list-style-type: none"> 1. Intra-team and inter-team communications are consistent with National Interoperability Field Operations Guide (NIFOG) 2. Consider alternate forms of communication, such as satellite phones, based on the mission assignment and team needs

NOTES

Nationally typed resources represent the minimum criteria for the associated component and capability.

REFERENCES

1. FEMA, NIMS 509: Mine Search and Rescue (SAR) Team Leader
2. FEMA, NIMS 509: Mine Search and Rescue (SAR) Technician
3. FEMA, NIMS 509: Canine Search Team – Land Live
4. FEMA, NIMS, October 2017
5. ANSI/ASSP Z359: Safety Requirements for Personal Fall Arrest Systems, Subsystems & Components, latest edition adopted
6. ASTM F2890: Standard Guide for Hazard Awareness for Search and Rescue Personnel, 2023
7. U.S. Department of Homeland Security, NIFOG, March 2022