

SECTION 1: IDENTIFICATION

PRODUCT IDENTIFIER:

MODINE
INSITU® ES2 IEA-AA-019
INSITU® ES2 Performance Repair Aerosol™- PRA™

OTHER MEANS OF IDENTIFICATION (FOR CHEMTREC): FORMULA # 18E163M12

RECOMMENDED USE OF THE CHEMICAL: AEROSOL SPRAY

SUPPLIER DETAILS: MANUFACTURER: MODINE MANUFACTURING COMPANY
1423 West Ormsby Ave.
Louisville, KY 40210

EMERGENCY 24-HOUR TELEPHONE NUMBERS:

Call CHEMTREC: within USA dial 1-800-424-9300 or outside USA dial +1-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

HAZARD PICTOGRAMS:



GHS02 Flame, GHS04 Gas Cylinder, GHS06 Skull and Crossbones, GHS07 Exclamation Mark, GHS08 Health Hazard

CLASSIFICATION OF THE SUBSTANCE OF MIXTURE:

Flammable Aerosols, Category 1
Gases Under Pressure, Category Compressed Liquid
Skin Corrosion/Irritation, Category 2
Sensitization - Skin, Category 1,1A,1B
Serious Eye Damage/Eye Irritation, Category 2A
Acute Toxicity - Inhalation, Category 3
Specific Target Organ Toxicity - Single Exposure, Category 3
Germ Cell Mutagenicity, Category 1A,1B
Carcinogenicity, Category 1A,1B
Percentage of the mixture consisting of ingredient(s) of unknown toxicity: 10.26%

SIGNAL WORD: DANGER

HAZARD STATEMENTS:

H222 Extremely flammable aerosol.
H280 Contains gas under pressure; may explode if heated.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H319 Causes serious eye irritation.
H331 Toxic if inhaled.
H336 May cause drowsiness or dizziness.
H340 May cause genetic defects.
H350 May cause cancer.

PRECAUTIONARY STATEMENTS:

GENERAL & PREVENTION:

P102 Keep out of reach of children.
P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have been read and understood.
P210 Keep away from heat/sparks/open flames/other ignition sources. No smoking.
P211 Do not spray on an open flame or other ignition source.
P251 Pressurized container: Do not pierce or burn, even after use.
P261 Avoid breathing vapor/spray.
P264 Wash hands thoroughly after handling.
P271 Use only outdoors or in a well-ventilated area.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear eye protection.

RESPONSE:

P302+P352 IF ON SKIN: Wash with plenty of soap and water.
P304+P340 IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do.
P312 Call a POISON CENTER/doctor if you feel unwell.
P321 Specific treatment (see...on this label).
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.

CONTINUED -->

SAFETY DATA SHEET

Per OSHA HCS

Page 2

PRODUCT IDENTIFIER:

MODINE
INSITU-ES2
IEA-AA-019

P337+P313 If eye irritation persists: Get medical advice/attention.
P363 Wash contaminated clothing before reuse.

STORAGE:

P403+P233 Store in a well-ventilated place. Keep container tightly closed when not in use.
P405 Store locked up or in secure area.
P410+P403 Protect from sunlight. Store in a well-ventilated place.
P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50 degrees C/122 degrees F.

DISPOSAL:

P501 Dispose of contents/container in accordance with local/regional/national regulations.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

#	COMPONENT	CAS#	% by WT.
1	ACETONE	67-64-1	40-51
2	PROPANE	74-98-6	15-21
3	N-BUTANE	106-97-8	5-8
4	VM&P NAPHTHA	64742-89-8	5-8
5	METHYL AMYL KETONE	110-43-0	5-8
6	LIGHT HYDROTREATED DISTILLATE	68410-97-9	1-3
7	ALUMINUM FLAKE	7429-90-5	1-3
8	AROMATIC-150	64742-94-5	1-3
9	VINYL TOLUENE (METHYLSTYRENE)	25013-15-4	1-3
10	PM ACETATE	108-65-6	1-3
11	XYLENE	1330-20-7	0.1-1
12	TALC	14807-96-6	0.1-1
13	PETROLEUM SOLVENT	64742-47-8	0.1-1
14	*ETHYLBENZENE	100-41-4	0.1-1
15	OCTANE	111-65-9	0.1-1
16	n-HEPTANE	142-82-5	0.1-1
17	*CARBON BLACK	1333-86-4	0.1-1
18	SOLVENT NAPHTHA	64742-95-6	0.1-1
19	METHYL ETHYL KETOXIME	96-29-7	0.1-1
20	N-BUTYL ACETATE	123-86-4	0.1-1
21	QUARTZ	14808-60-7	0.1-1

SECTION 4: FIRST AID MEASURES

Inhalation: If inhaled: Move person to fresh air and keep in comfortable position for breathing.

If breathing difficulty persists: Get medical advice/attention.

Skin Contact: If on skin: Wash with plenty of soap and water. Remove contaminated clothing and wash before reuse. If skin irritation persists: Get medical advice/attention.

Eye Contact: If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

Ingestion: If swallowed: Immediately call a poison center/doctor. Do NOT induce vomiting unless directed to do so by medical personnel.

MOST IMPORTANT SYMPTOMS AND EFFECTS, BOTH ACUTE AND DELAYED:

See Section 11: Toxicological Information and effects.

INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT REQUIRED:

Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

Suitable Extinguishing Media: CO2 (Carbon Dioxide), dry chemical, or water fog.

Unsuitable Extinguishing Media: Water spray may be unsuitable. However if water is used fog nozzles are preferable.

Water may be used to cool closed containers to prevent pressure build-up and explosion when exposed to extreme heat.

Specific Hazards Arising From the Chemical: Closed containers exposed to heat from fire may build pressure and explode. Products of combustion may include but are not limited to: oxides of carbon.

Special Protective Equipment and Precautions for Fire-Fighters: Full protective equipment including self-contained breathing apparatus should be used.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Personal Precautions: Use personal protection recommended in Section 8.

Environmental Precautions: Prevent contamination of soil/ground, waterways, drains, and sewers.

Methods of Containment: Absorb spilled liquid in suitable material.

Methods for Clean-Up: Use spark-proof tools to sweep or scrape up, containerize, and dispose of properly.

Other Information: Ensure adequate ventilation.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling:

Vapors may ignite explosively. Prevent buildup of vapors. Keep from sparks, heat, flame or other heat sources.

Do not smoke. Turn off pilot lights, heaters, electric motors and other sources of ignition during use and

until all vapors are gone. Do not puncture or incinerate/burn container. Keep container tightly closed while not in use.

Conditions for Safe Storage, Including Any Incompatibilities:

CONTINUED -->

SAFETY DATA SHEET

Per OSHA HCS

Page 3

PRODUCT IDENTIFIER:

MODINE
INSITU-ES2
IEA-AA-019

Store in dry, well-ventilated area and in accordance with federal, state, and local regulations. Do not expose to heat or store at temperatures above 50 degrees C / 122 degrees F. If storing in cold temperatures, allow product to warm to room temperature before use. Keep container tightly closed and away from heat and sunlight when not in use.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS

#	COMPONENT	ACGIH TLV-STEL	ACGIH TLV-TWA	OSHA PEL-TWA
1	ACETONE	750 ppm	500 ppm	1000 ppm
2	PROPANE	1800 ppm	2500 ppm	1000 ppm
3	N-BUTANE	N/E	800 ppm	800 ppm
4	VM&P NAPHTHA	N/E	300 ppm	300 ppm
5	METHYL AMYL KETONE	N/E	50 ppm	465 mg/m3
6	LIGHT HYDROTREATED DISTILLATE	N/E	N/E	N/E
7	ALUMINUM FLAKE	N/E	10 mg/m3	15 mg/m3
8	AROMATIC-150	N/E	25 ppm	100 ppm
9	VINYL TOLUENE (METHYLSTYRENE)	N/E	N/E	N/E
10	PM ACETATE	N/E	N/E	N/E
11	XYLENE	150 ppm	100 ppm	100 ppm
12	TALC	N/E	2 mg/m3	2 mg/m3
13	PETROLEUM SOLVENT	N/E	N/E	400 ppm
14	*ETHYLBENZENE	125 ppm	100 ppm	100 ppm
15	OCTANE	N/E	N/E	N/E
16	n-HEPTANE	500 ppm	400 ppm	500 ppm
17	*CARBON BLACK	N/E	3.5 mg/m3	3.5 mg/m3
18	SOLVENT NAPHTHA	N/E	100 ppm	100 ppm
19	METHYL ETHYL KETOXIME	N/E	N/E	N/E
20	N-BUTYL ACETATE	200 ppm	150 ppm	150 ppm
21	QUARTZ	N/E	.05 mg/m3	30 mg/m3

APPROPRIATE ENGINEERING CONTROLS: Provide adequate ventilation to keep air contamination below OSHA permissible exposure limits and ACGIH TLV exposure levels.

EYE/FACE PROTECTION: Wear safety glasses with side shields. Have eye wash facilities immediately available.

SKIN PROTECTION: Wear chemical resistant gloves(neoprene or butyl rubber) if contact is likely.

RESPIRATORY PROTECTION: Use NIOSH-approved air-purifying respirator with organic cartridge or canister if exposure cannot be controlled within applicable limits with ventilation.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Aerosol - Pressurized Liquid
COLOR:	See product identification
ODOR:	SOLVENT ODOR
ODOR THRESHOLD:	No data available
pH:	No data available
FREEZING POINT:	Not Established (mixture)
BOILING POINT:	Not Applicable (pressurized mixture)
FLASH POINT:	less than -18 degrees C (less than -0.4 degrees F), c.c.
EVAPORATION RATE:	Faster than ether
UPPER FLAMMABILITY LIMIT:	Not Established (mixture)
LOWER FLAMMABILITY LIMIT:	Not Established (mixture)
VAPOR PRESSURE:	Not Established (pressurized mixture)
SPECIFIC GRAVITY:	0.751
SOLUBILITY (WATER):	Negligible
VOC PERCENT BY WEIGHT:	45.03
HAPS PERCENT BY WEIGHT:	0.79
MIR EPA NUMBER:	0.88
MIR CA NUMBER:	0.88

SECTION 10: STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable under normal conditions.

POSSIBILITY OF HAZARDOUS REACTIONS: Will not occur.

CONDITIONS TO AVOID: Keep away from heat, sparks, and flames.

INCOMPATIBLE MATERIALS: Strong oxidizing agents.

HAZARDOUS DECOMPOSITION PRODUCTS: by fire - Carbon Dioxide and Carbon Monoxide

SECTION 11: TOXICOLOGICAL INFORMATION

LIKELY ROUTES OF ENTRY: Skin contact, Inhalation, Eye contact, Ingestion

SIGNS AND SYMPTOMS OF EXPOSURE:

Skin Contact: Signs/symptoms may include localized redness, itching, drying and cracking of skin.

Inhalation: Intentional concentration and inhalation may be harmful or fatal.

Eye Contact: Signs/symptoms may include significant redness, swelling, pain, tearing, cloudy appearance of the cornea, and impaired vision.

Ingestion: Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.

TARGET ORGANS POTENTIALLY AFFECTED BY EXPOSURE:

Central nervous system, kidneys, lungs, liver, eyes, skin, brain, respiratory tract, urinary tract, reproductive system,

SAFETY DATA SHEET Per OSHA HCS

Page 4

PRODUCT IDENTIFIER:

MODINE
INSITU-ES2
IEA-AA-019

cardiovascular system

TOXICOLOGICAL DATA:

#	COMPONENT	LD50 ORAL	LD50 DERMAL	LC50 INHALATION
1.	ACETONE	5800 mg/kg (rat)	20000 mg/kg (rabbit)	76 mg/L (rat) 4 h
2.	PROPANE	N/E	N/E	658 mg/L (rat) 4 h
3.	N-BUTANE	N/E	N/E	30957 mg/m3 (rat) 4h
4.	VM&P NAPHTHA	>5000 mg/kg (rat)	>2000 mg/kg (rabbit)	>20 mg/L
5.	METHYL AMYL KETONE	1600 mg/kg (rat)	10206 mg/kg (rabbit)	2000-4000 ppm rat 4h
6.	LIGHT HYDROTREATED DISTILLATE	N/E	N/E	N/E
7.	ALUMINUM FLAKE	N/E	N/E	N/E
8.	AROMATIC-150	N/E	N/E	N/E
9.	VINYL TOLUENE (METHYLSTYRENE)	N/E	N/E	N/E
10.	PM ACETATE	>5000 mg/kg (rat)	>5000 mg/kg (rabbit)	>10.8 mg/l (rat) 6 h
11.	XYLENE	>3523 mg/kg	>4200 mg/kg	>20 mg/L
12.	TALC	N/E	N/E	N/E
13.	PETROLEUM SOLVENT	N/E	N/E	N/E
14.	*ETHYLBENZENE	N/E	N/E	N/E
15.	OCTANE	N/E	N/E	N/E
16.	n-HEPTANE	N/E	N/E	N/E
17.	*CARBON BLACK	8000	N/E	N/E
18.	SOLVENT NAPHTHA	N/E	N/E	N/E
19.	METHYL ETHYL KETOXIME	N/E	N/E	N/E
20.	N-BUTYL ACETATE	>10,760 mg/kg (rat)	>14,112 mg/kg rabbit	>21 mg/l (rat) 4 h
21.	QUARTZ	N/E	N/E	N/E

SECTION 12: ECOLOGICAL INFORMATION

No data available.

SECTION 13: DISPOSAL CONSIDERATIONS

Dispose of container and its contents in accordance with federal, state, and local regulations.
Do not puncture, incinerate, or place container in trash compactor.

SECTION 14: TRANSPORTATION INFORMATION

GROUND (D.O.T./49 CFR):

UN I.D. Number: UN1950 Transport Hazard Class: 2.1 Packing Group: - (not applicable)
Proper Shipping Name: AEROSOLS ("FLAMMABLE" is optional to add after AEROSOLS)
Hazard label: Limited Quantity (LTD QTY) label -- see 49 CFR 172.315
Shipping papers format: UN1950, AEROSOLS, 2.1, LTD QTY (can add "FLAMMABLE" after AEROSOLS)

AIR (IATA):

UN I.D. Number: UN1950 Transport Hazard Class: 2.1 Packing Group: - (not applicable)
Proper Shipping Name: AEROSOLS, FLAMMABLE Packing Instruction: Y203
Hazard labels: LTD QTY label with "Y" in it, and Flammable Gas label
Shipping papers format: UN1950, AEROSOLS, FLAMMABLE, 2.1 (Note LTD QTY not needed on papers)

WATER (IMDG):

UN I.D. Number: UN1950 Transport Hazard Class: 2.1 Packing Group: - (not applicable)
Proper Shipping Name: AEROSOLS Hazard label: LTD QTY label (see IMDG 3.4.5.1)
Packing Instruction: P003,LP02 EmS: F-D,S-U Stowage and Segregation: Category A
Shipping papers format: UN1950, AEROSOLS, 2.1, (-18 C c.c.), LTD QTY

No component of this product is a listed Marine Pollutant (49 CFR 172.101,Appendix B).

SECTION 15: REGULATORY INFORMATION

International Chemical Inventory

All components of this product are listed on or exempt from the following inventories:
TSCA (United States), CEPA/DSL (Canada), AICS (Australia), IECSC (China)

SARA Section 313 Toxic Chemicals:

ALUMINUM FLAKE 7429-90-5, XYLENE 1330-20-7, *ETHYLBENZENE 100-41-4
Chemicals listed above are subject to the SARA reporting requirements under 40 CFR 372.45(c)(5).

California Prop65 Chemicals:

TALC 14807-96-6, *ETHYLBENZENE 100-41-4, *CARBON BLACK 1333-86-4, SOLVENT NAPHTHA 64742-95-6
* California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65).
This product contains chemicals known to the state of California to cause cancer.

SECTION 16: OTHER INFORMATION

REVISION DATE: 11/01/23

HMIS & NFPA Hazard Scale:

0=minimal, 1=slight, 2=moderate, 3=serious, 4=severe

CONTINUED -->

SAFETY DATA SHEET

Per OSHA HCS

Page 5

PRODUCT IDENTIFIER:

MODINE
INSITU-ES2
IEA-AA-019

HMIS(American Coatings Association's Hazardous Material Identification System):

Health = 2 Flammability = 4 Physical Hazard = 1

NFPA 704(National Fire Protection Association's Hazard Identification Ratings System):

Health = 2 Flammability = 4 Instability = 1

This SDS is based on information believed to be reliable and accurate. Because of changing reporting requirements and other variables it is impossible to guarantee with complete accuracy all the information contained in this document. It is the responsibility of the user to determine proper personal protection based on actual condition of use and to comply with all federal, state, and local laws and regulations.