

Article 222 CO₂ Fire Extinguishing Systems are applicable to provisions stipulated in Article 82, Paragraph 1, Article 83, Article 84 through Article 88, Article 89, Paragraph 1 and Paragraph 2, Article 90 through Article 92, Article 93, Paragraph 1, Article 94 through Article 96, and Article 97. Dosage of total flooding CO₂ Fire Extinguishing System shall be calculated according to the following regulations:

1. The required ingredient dosage shall be calculated using the volume of protected area and its required dosage of agent per m³ stated in the following Table. If the actual value is less than the listed value, a baseline dosage listed in the amount of the agent shall be used for the calculation.

Volume of protected area (m ³)	Required Dosage per m ³ of protected volume (kg/m ³)	Baseline Dosage of Agent (kg)
V<5	1.2	1
5 ≤ V<15	1.1	6
15 ≤ V<50	1	17
50 ≤ V<150	0.9	50
150 ≤ V<1500	0.8	135
V>1500	0.75	1200

2. Where the opening of the protected area is not equipped with an automatic closing device, 5 kg per M² of the opening area shall be added in addition to the above calculated dosage.

Inert Gas Fire Extinguishing Systems may use IG-100, IG-55, IG-541 agents stipulated in Article 82, Paragraph 2 and Paragraph 3, and provisions of Article 83-1, Article 83-2, Article 84, Paragraph 1, Article 85, Article 87, Paragraph 1, Article 88, Article 89, Paragraph 1 and Paragraph 3, Article 90 through Article 92, Article 93, Paragraph 2, Article 94, Article 95, Article 96-1, and Article 97. For within the range of a protected area, or when the protected subject is for storing or processing public hazard objects, using coefficients listed in the table below, calculate the dosage by multiplying Item-1 for full-area spray of CO₂ Fire Extinguishing System, multiplying the result of Article 83, Subparagraph 2 for localized spray, or multiplying the result of Article 83-2 for Inert Gas Fire Extinguishing System. For public hazard objects or agent coefficient not listed in the table, use design coefficient certified by the central authority for the calculation.

Agent Type Public Hazard Object	CO ₂	Inert Gas	Halocarbon	Dry Powder			
		IG-100, IG-55, IG-541	HFC-23, HFC-227ea	Type I	Type II	Type III	Type IV
Acrylonitrile	1.2			1.2	1.2	1.2	1.2
Acetaldehyde				—	—	—	—
Acetonitrile	1.0			1.0	1.0	1.0	1.0
Acetone	1.0			1.0	1.0	1.0	1.0
Anilide				1.0	1.0	1.0	1.0
Isooctane	1.0			—	—	—	—
Isoprene	1.0						

Isopropylamine	1.0						
Isopropyl ether	1.0						
Isohexane	1.0						
Isoheptane	1.0						
Isopentane	1.0						
Ethanol	1.2			1.2	1.2	1.2	1.2
Ethylamine	1.0						
Chloroethylene				—	—	1.0	—
Octane	1.2						
Gasoline	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Ethyl formate	1.0						
Propyl formate	1.0						
Methyl formate	1.0						
Naphtha	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Crude oil	1.0			1.0	1.0	1.0	1.0
Acetic acid				1.0	1.0	1.0	1.0
Ethyl acetate	1.0			1.0	1.0	1.0	1.0
Methyl acetate	1.0						
Propylene oxide	1.8			—	—	—	—
Cyclohexane	1.0						
Diethylamine	1.0						
Ethyl ether	1.2			—	—	—	—
Dioxan	1.6			1.2	1.2	1.2	1.2
Heavy oil	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Lubricant	1.0			1.0	1.0	1.0	1.0
Tetrahydrofuran	1.0			1.2	1.2	1.2	1.2
Kerosene	1.0	1.0	1.0	1.0	1.0	1.0	1.0
Triethylamine	1.0						
Toluene	1.0			1.0	1.0	1.0	1.0
Naphtha	1.0			1.0	1.0	1.0	1.0
Vegetable oil				1.0	1.0	1.0	1.0
Carbon disulfide	3.0			—	—	—	—
Ethylene glycol	1.2						
Pyridine				1.0	1.0	1.0	1.0
N-butanol				1.0	1.0	1.0	1.0
N-propanol	1.0			1.0	1.0	1.0	1.0
Isopropanol	1.0						
Propylamine	1.0						
Hexane	1.0			1.2	1.2	1.2	1.2
Heptane	1.0			1.0	1.0	1.0	1.0
Benzene	1.0			1.2	1.2	1.2	1.2
Pentane	1.0			1.4	1.4	1.4	1.4
Boiled oil				1.0	1.0	1.0	1.0
Formaldehyde	1.6			1.2	1.2	1.2	1.2
Methyl ethyl ketone	1.0			1.0	1.0	1.2	1.0
Chlorobenzene				—	—	1.0	—

Note: Substance marked with [—] shall not be used as a fire distinguishing agent for public hazard objects.