





Library name in Chempro100: CWA-9.2.3

### Alarm indications and agent coverage

Alarm indication Text	Icon	Library specified agents	Low mg/m <sup>3</sup>	Library unspecified agents/cases
Nerve		GA, GB, GD, GF VX	0.1 0.1	Nerve precursors
Blister		HD L	2 2	Vesicant precursor
Chemical Hazard		-	-	Chemicals in hazardous concentration
Blood		AC, CK	20	-

### Library specified agents:




Nerve: Nerve agents -Tabun (GA), Sarin (GB), Soman (GD), Cyclo-Sarin (GF) and VX.

Blister: Blister agents- Sulphur mustard (HD) and Lewisite (L).

Blood: Blood agents- Hydrogen cyanide (AC) and Cyanogen chloride (CK).

Library name in Chempro 100: TIC-9.2.3

### Alarm indications and agent coverage

Alarm indication Text	Icon	Library specified agents	Low <sup>(1)</sup> ppm	Library unspecified agents/cases
Acid		Hydrogen Chloride (HCl) Hydrogen Fluoride (HF) Nitric Acid (HNO <sub>3</sub> )	50 <sup>(2)</sup> 30 <sup>(2)</sup> 25 <sup>(2)</sup>	Acetic Acid
Toxic		Ammonia (NH <sub>3</sub> ) Carbon disulfide (CS <sub>2</sub> ) Hydrogen sulfide (H <sub>2</sub> S) Chlorine Cyanogen chloride (CK) Hydrogen Cyanide (AC) Arsine (AsH <sub>3</sub> ) Ethylene oxide (ETOX) Phosphorous trichloride (PH <sub>3</sub> )	300 500 100 50 <sup>(2)</sup> 50 20 3 100 25	Acrylonitrile
Chemical Hazard		-	-	Agent in hazardous concentration

Notes

(1): Low = Alarm limit (IDLH-level). Note: Alarm may occur also below this concentration limit.

(2): Valid in < 16 g (H<sub>2</sub>O)/m<sup>3</sup>.

See following paragraphs for other general limitations and conditions in detail.




### Library specified agents:

Acid: Hydrogen Chloride (HCl), Hydrogen Fluoride (HF) and Nitric Acid (HNO<sub>3</sub>) from IDLH level (Immediate Danger for Life and Health). Alarm indication 'Chemical Hazard' may occur in high acid concentrations.

Toxic: Ammonia (NH<sub>3</sub>), Carbon disulfide (CS<sub>2</sub>), Hydrogen sulphide (H<sub>2</sub>S), Hydrogen cyanide (AC), Cyanogen Chloride (CK), Ethylene Oxide (ETOX), Arsine (AsH<sub>3</sub>), Chlorine (Cl<sub>2</sub>) and Phosphorous trichloride (PH<sub>3</sub>) from about IDLH level. Alarm indication 'Chemical Hazard' appears often preceding or following 'Toxic' alarm.

Library name in Chempro 100: Precursor-9.2.3

### Alarm indications and agent coverage

Alarm indication Text	Icon	Library specified agents	Low <sup>(1)</sup> mg/m <sup>3</sup>	Library unspecified agents/cases
Nerve precursor		Dimethyl methyl phosphonate / Di methyl phosphite / Methyl phosphonic dichloride / Pinacolyl alcohol	0.5 / 0.5 / 0.2 / 150	CWA nerve agents
Vesicant precursor		Thiodiglycol	0.1	
Chemical Hazard		-	-	Agent in hazardous concentration

Notes

(1): Low = Alarm limit. Note: Alarm may occur also below this concentration limit. See following paragraphs for other general limitations and conditions in detail.


### Library specified agents:

Nerve precursor: Dimethyl methyl phosphonate (DMMP), Dimethyl phosphite, Methyl phosphonic dichloride and Pinacolyl alcohol. Alarm indication 'Chemical Hazard' may occur in high nerve precursor concentrations.

Vesicant precursor: Thiodiglycol. Alarm indication 'Chemical Hazard' may also occur.

Library name in Chempro 100: First Responder-9.2.3

### Alarm indications and agent coverage

Alarm indication Text	Icon	Library Specified Agents	Alarm Limit <sup>(1)</sup> ppm
Toxic		Ethylene Oxide	100
		Acrylonitrile	100
		Hydrogen Sulfide	10
		Arsine	5
		Ammonia	300
		Phosphorous Trichloride	25
		Carbon Disulfide	500
		Allyl Alcohol	40
		Hydrogen Cyanide	50
		Cyanogen Chloride	50
		G type Nerve	0.2 mg/m <sup>3</sup>
		HD type Blister	5 mg/m <sup>3</sup>
Chemical Detected	-	Any measurable agent	-

Notes

(1): Operation in cold (< 5 °C) and hot environments (>35 °C) may lead to increased alarm limits. Operation in conditions where background air is slightly contaminated can also lead to increased alarm limits.

See following paragraphs for other general limitations and conditions in detail.




**Toxic:** Toxic Industrial Compounds like Ethylene Oxide (ETOX), Acrylonitrile, Arsine (AsH<sub>3</sub>), Hydrogen Sulfide (H<sub>2</sub>S), Ammonia (NH<sub>3</sub>), Phosphorous Trichloride (PCl<sub>3</sub>), Carbon Disulfide (CS<sub>2</sub>), Allyl Alcohol, Hydrogen Cyanide (AC) and Cyanogen Chloride (CK) as well as Chemical Warfare Agents like G-type Nerve agents and HD-Blister agent.

**Chemical Detected:**

Library specified agents in concentrations lower than Alarm Limit. Chemical detected alarm often precedes and follows Toxic alarm indication. Indication may occur also due to several other compounds.

Library name in Chempro100: VOC-9.2.3

### Alarm indications and agent coverage

Alarm indication Text	Icon	Library specified agents	Low <sup>(1)</sup> ppm	Library unspecified agents/cases
Flammable		Acetone Ethanol Methanol n-Hexane Isopropanol Diethyl ether Ethyl acetate Methyl methacrylate	100 2000 500 600 400 400 400 100	Solvents and fuel vapours
Organic acid		Acetic acid	50	-
Chemical Hazard		-	-	Agent in hazardous concentration

Notes

 (1): Low = Alarm limit. Note: Alarm may occur also below this concentration limit.  
 See following paragraphs for other general limitations and conditions in detail.


### Library specified agents:

Flammable: Acetone, Ethanol, Methanol, n-Hexane, Isopropanol, Diethyl ether, Ethyl acetate and Methyl methacrylate. Alarm indication 'Chemical Hazard' may occur in high concentration and humidity.

Organic acid: Acetic acid. Alarm indication 'Chemical Hazard' may occur in high concentration.

Library name in Chempro 100: First Responder-9.2.3E

### Alarm indications and agent coverage

Alarm indication Text	Icon	Library Specified Agents	Alarm Limit <sup>(1)</sup> ppm
Toxic		Ethylene Oxide	100
		Acrylonitrile	100
		Hydrogen Sulfide	10
		Arsine	5
		Ammonia	300
		Phosphorous Trichloride	25
		Carbon Disulfide	500
		Allyl Alcohol	40
		Hydrogen Cyanide	50
		Cyanogen Chloride	50
		G type Nerve	0.2 mg/m <sup>3</sup>
		HD type Blister	5 mg/m <sup>3</sup>

Notes

(1): Operation in cold (< 5 °C) and hot environments (>35 °C) may lead to increased alarm limits. Operation in conditions where background air is slightly contaminated can also lead to increased alarm limits.

See following paragraphs for other general limitations and conditions in detail.







**Toxic:** Toxic Industrial Compounds like Ethylene Oxide (ETOX), Acrylonitrile, Arsine (AsH<sub>3</sub>), Hydrogen Sulfide (H<sub>2</sub>S), Ammonia (NH<sub>3</sub>), Phosphorous Trichloride (PCl<sub>3</sub>), Carbon Disulfide (CS<sub>2</sub>), Allyl Alcohol, Hydrogen Cyanide (AC) and Cyanogen Chloride (CK) as well as Chemical Warfare Agents such as G-type Nerve agents and HD-Blister agent.

**Chemical**

**Detected:** Library specified agents in concentrations lower than Alarm Limit. Often precedes and follows indication of "Toxic". Indication may occur also due to several other compounds.

Library name in Chempro 100: H.T.C 9.2.3

Alarm indications and semi-quantitative concentration limit:

Alarm Indication Text	Icon	Library specified Agents	Alarm Limit <sup>(1)</sup>	Library unspecified agents/causes
TDI		Toluene di-isocyanate	0.04-0.06 pm	Alkanes and diesel vapor in low concentration.
Acetonitrile		Acetonitrile	30-100 ppm	
Inorganic acid		Hydrogen Chloride	5-10 ppm	
Inorganic acid		Hydrogen Fluoride	2-5ppm(RH<40) >>5ppm(RH>40)	
Toxic		Toxic	Not specified	G type nerve agents, Lewisite, inorganic acids in high concentration possible.
VOC		VOC	Not specified	Alcohols, alkanes, ketones, fuel and solvent vapors.



Notes

(1): Low = Alarm level. Note: Alarm may occur also below this concentration limit.

The performance specification for the Irritant-1.2.0 library of the ChemProV2.

Operational context of the library:

for first responders in cases where the use of the pepper sprays is suspected.



Alarm indications				Pepper sprays	Detectability after attack (h)
Text	Icon	Audio	Visible		
Irritant			Red LEDs	Juova Law Enforcement (2% oleoresin capsicum), USA	>24
				Bodyguard Defence Pepper Spray (5% OC), USA	
				Sabre 5.0 Law Enforcement Unit (5% OC), USA	
				First Defence Red Pepper Spray MK-4, Germany	
				First Defence Red Pepper Gel MK-4, Germany	

Saturated vapor of capsaicin can also be detected.

The performance specification for the Clan lab-1.2.0 library of the ChemProV2.

Operational context of the library:



for the authorized personnel in cases where the operation of a clandestine methamphetamine lab is suspected.

Alarm indications				Chemical	Alarm limit
Text	Icon	Audio	Visible		
Chemical Detected			Red LEDs	Acetic acid	Detectable mostly at TWA level
				Acetone	
				Ammonia	
				Benzene	
				Ethers	
				Ethyl acetate	
				Ethyl alcohol	
				Gasoline	
				Hydrogen chloride	
				Isopropyl alcohol	
				Methyl amine	
				Phosphine	
				Phosphorus trichloride	
Toluene					

The performance specification for the Overhaul-1.2.0 library of the ChemProV2.

Operational context of the library:

for the fire fighters when overhauling the fire place and existence of toxic vapors is suspected.

Alarm indications				Chemical	Alarm limit
Text	Icon	Audio	Visible		
Mask Up			Red LEDs	Acrylonitrile	Detectable mostly at TWA level
				Ammonia	
				Benzene	
				Formaldehyde	
				Hydrogen chloride	
				Hydrogen cyanide	
				Hydrogen fluoride	
				Sulphur dioxide	
Toluene					