Check sheet for Chemical Substance Risk Assessment

Chemical Substance to use		Bp (C)	Fp (C)	Date		Name	
Operation (Outline)				Additional safety measures, etc.			

Bp: Boiling point, Fp: Flash point

Special Attention
(1) Conduct a risk assessment again and take more stringent safety measures when an experiment is scaled up.
(2) Consider much higher risk generated when operating at higher temperature than before.

				Risk reduction measures						
Che-ck	Category	Criteria	Hazard	Do not put into the general experi-mental trash	Wear safety glasses	Keep away from ignition sources (note 1)	Do not place flammable goods around. Check the fire extinguishing method	Check emergency shower, eyewash, etc.	Use local exhaust ventilation (Fume hoods, etc.)	Additional measures/ comments
	Treating solid or liquid wastes containing unknown components, or disposal of unknown chemicals	See the left	Possibility of explosion, fire or generating hazardous substances by heating, concentration, shock, or reacting with other chemicals.	●	●	●	●	●	○	Not treat by yourself. Ask specialized contractors to treat. Until then, store in a cool and dark place.
	Explosive or self-reactive substances	Hazardous Materials (Category 5) on Fire Service Act	- Possibility of rapid decomposition and explosion by adding energy (heat, shock, friction, etc.). - Possibility of spontaneous combustion by putting under the air for a long time.	●	●	●	●	●	○	Do not handle with crush, shock, or friction. Avoid heating.
	Spontaneously combustible or water-reactive substances	Hazardous Materials (Category 3) on Fire Service Act	- Possibility of a fire or generation of flammable gas by contact with air or water. - Possibility of catching fire of nearby combustible materials.	●	●	●	●	●	○	- Keep container tightly closed. - Do not allow contact with air (spontaneously combustible substances). - Do not contact with water (water-reactive substances). - Handle under an inert gas without moisture.
	Combustible solids	Hazardous Materials (Category 2) on Fire Service Act	- Easily oxidized. - Possibility of explosion by shock or contact/mixing with the oxidizing agents.	●	●	●	●	●	○	Avoid contact and mixing of oxidizing substances.
	Flammable liquids	Hazardous Materials (Category 4) on Fire Service Act	Vapor mixed with air has a possibility of catching fire or explosion.	●	●	●	●	●	○	Need special caution If applicable to the following: - Flash point is at or below room temperature or operating temperature - Operation with boiling point or more
	Oxidizing solids or liquids	Hazardous Materials (Category 1 or 6) on Fire Service Act	Decompose, release oxygen and significantly accelerate of burning nearby combustible materials if energy is added.	●	●	●	●	●	○	
	Corrosive materials	“Corrosive to metals”, “Skin corrosion/irritation” or “Serious eye damage/ irritation” on GHS classification	- Chemical action will materially damage, or even destroy, metals. - Provide irreversible or reversible damage to skin. - Provide irreversible or reversible damage to eye.	●	●			●	○	- Wear impervious protective gloves. - Handle in LEV (fume hood etc.) if gases generate.
	Organic solvent or specified chemical substances	Organic solvent or specified chemical substances on	Acute or chronic health problems due to inhalation of vapor, mist or dust.	●	●			●	●	- Need adequate room ventilation. - Avoid vapor emission from containers including the substances.
	Poisonous or deleterious substances	Materials regulated by Poisonous and Deleterious Substances Control Act	- Harmful to human (oral, inhalation, skin absorption, etc.) - Threat of theft.	●	●			●	○	- Keep in a cabinet with locking, segregated with general chemicals. - Record weight of chemicals at each use by using MaCS-NU

(Note 1) Heat, High Temperature materials, Spark, Flame, Static electricity, etc.

● : Required ○ : Strongly recommended